# THE MODERN HOSPITAL

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## ROSS PAVILION OF THE ROYAL VICTORIA HOSPITAL, MONTREAL

### Beautiful Location on Mount Royal—Architectural Difficulties Overcome—Pleasant Surroundings Promote Convalescence—All Equipment Designed for Practical Results


By EDWARD F. STEVENS, Architect, Boston, and H. E. WEBSTER, Superintendent of the Royal Victoria Hospital, Montreal


THE problems and conditions given the architects of providing for one hundred and thirty private patients in the Ross Pavilion of the Royal Victoria Hospital at Montreal were somewhat unique.

The precipitous grade on the side of Mount Royal, where the main buildings are located, made the study of the site for the new private ward pavilion a most important factor. There was no room on the east; a location at the west on Pine Avenue would bring the new building into too close proximity with the existing group; so a location at the northwest was selected, about 300 feet from the original group at the edge of a plateau on the slope of the mountain.

After the selection of the site, the next problem was the approach; first, from the main hospital, and second, from the street. The first has been solved by tunneling into the mountain to a point directly under the staircase and elevators and sinking a shaft to meet this tunnel, as the main floor of the new building is 100 feet above the main floor of the original hospital. This tunnel corridor leaves the second story of the main build-

Fig. 1. Front of the Ross Pavilion of the Royal Victoria Hospital, Montreal.

ing, crosses a bridge, and then, with a 5 per cent grade, reaches the elevators and staircase at a level of 50 feet below the ground floor. As to the second, the pavilion entrance is about 1,000 feet from the street entrance, which is marked by heavy wrought iron gates. The main courtyard, at the east of the new pavilion, is reached by a moderate slope from the gates, and is sufficiently broad to allow the turning of automobiles and carriages. This roadway was excavated from the side of the hill along which it rises to the elevation of the new building. The patients' entrance is from a courtyard at the west, approached by a detour from the same driveway. (See block plan.)

In connection with the patients' entrance, there is an exedra, through which is the approach to the patients' lawn and tea house. Walks lead through the natural park. This park consists of a large tract of land that will be reserved for the patients and will be developed as the needs increase. The location is such that patients will be relieved of the disturbing noises from the street or from the main hospital buildings.

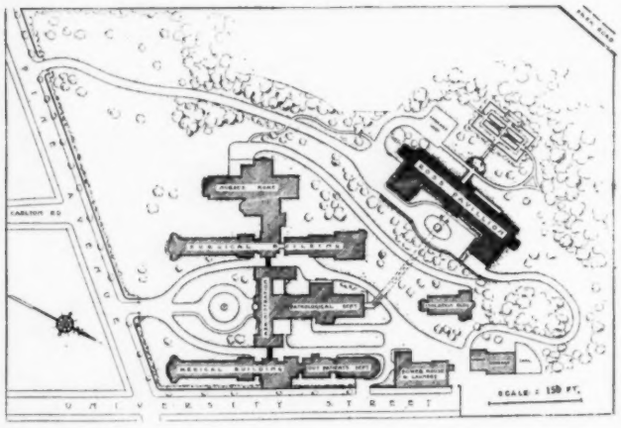


Fig. 2. Block plan of the Royal Victoria Hospital. Ross Pavilion has an elevation of nearly 100 feet above the main building and is connected with it by a tunnel which was dug into the mountain to a point directly under the staircase and elevators, where a shaft has been sunk to meet it.

The exterior of the building is designed to harmonize with the original plant. This necessitated the use of the Scotch baronial type of architecture and the material is of rock-faced Montreal limestone with cut stone quoins and ornament. Being on an elevation nearly 100 feet above the other buildings, it naturally dominates the group when viewed from a distance. A central tower was considered a desirable architectural feature, and this makes a practical housing for elevator machinery, fans, and ventilation outlets.

The main entrance from the east court is through a porte-cochere to the memorial vestibule. This vestibule has walls and groined ceiling of Caen stone and floor of marble. On the right of the entrance is the porter's window; on the left, a memorial tablet in bronze, surrounded by marble, with the inscription: "This pavilion was erected and equipped by John Kenneth Leveson Ross, to the memory of his father, James Ross, and of his mother, Annie Kerr Ross."

The first story is used entirely for administra-

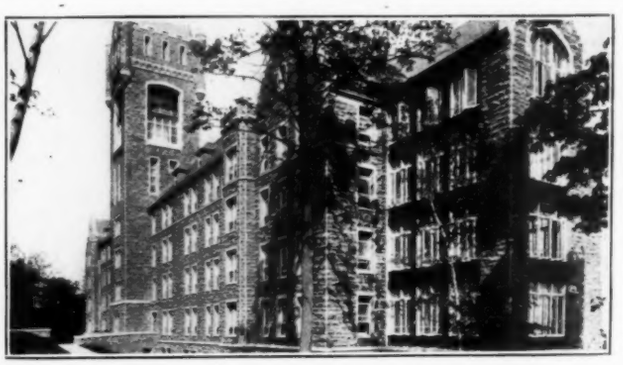
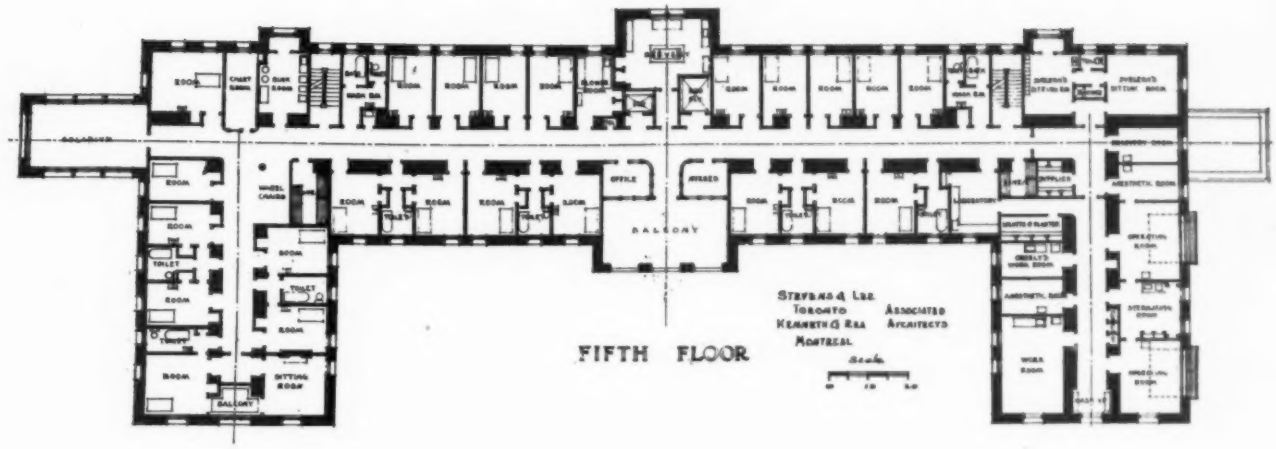
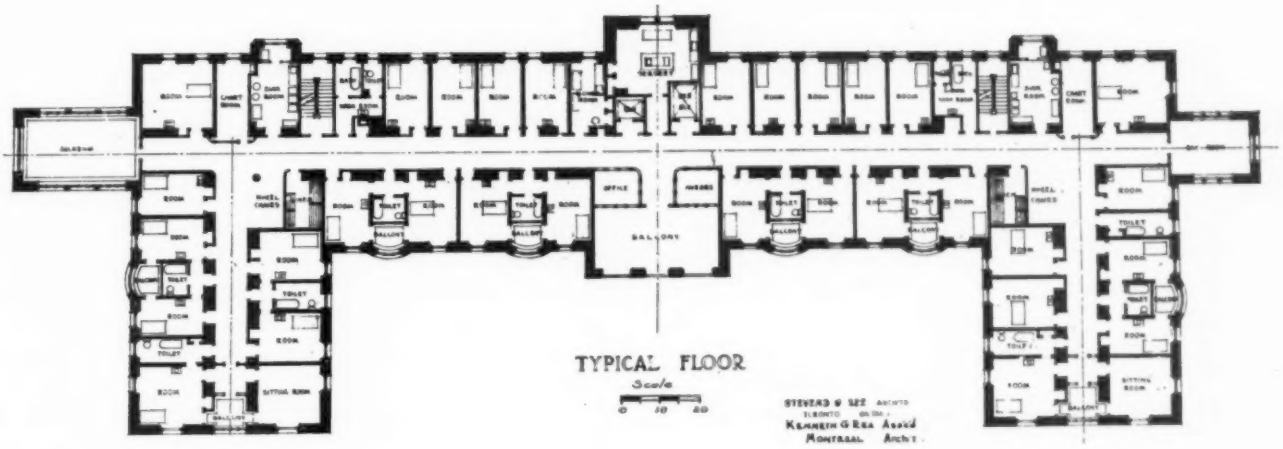


Fig. 3. End view of Ross Pavilion. The tower adds to the commanding appearance of the building and makes a practical housing for elevator machinery, fans, and ventilation outlets.

tive purposes, medical treatment, the culinary department, and a small psychiatric department. The entrance hall is 26 feet by 32 feet, and here the architects felt at liberty to depart from the hospital type of finish. Here there is paneled oak dado, with the upper portion of the walls of Caen stone and a paneled vaulted ceiling. At the five electric outlets in the ceiling are heavy bronze chandeliers. The heating of the room is taken care of through a central marble and oak pedestal with bronze grilles. The floor is Belgian black and Italian white marble, with a border of Tennessee. At the right is the general office (back of which are the private offices), with a paneled oak counter; at the left is one of the reception rooms, and directly ahead are the two elevators. These elevators lead from the tunnel, 50 feet below, to the attic or storage space, and are two in number—one a general elevator for standing passengers or guests, and the other for beds, stretchers, and supplies, and for serving the serving kitchen. The larger lift is so arranged that

Fig. 4. Entrance hall of the Ross Pavilion, showing method of heating from the middle of the room. In this beautiful room the architects felt at liberty to depart from the hospital type of finish.



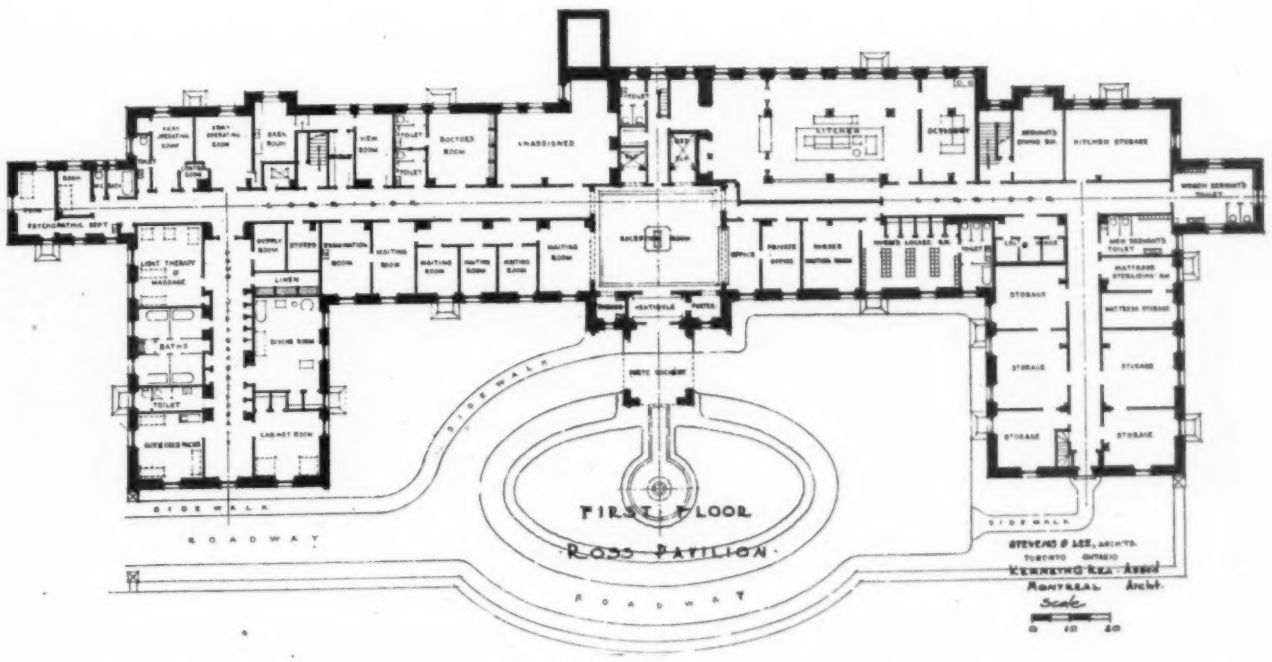




Fig. 5. Floor plans of the Ross Pavilion. The fifth floor is mainly devoted to rooms for patients, but the north end has been set apart for the rooms of the operating department. The typical floor plan below shows the sun parlors at either end of the long corridors which are fitted up with easy chairs, writing desks, palms, etc., and which make a particularly pleasant feature of Ross Pavilion. The first floor is used entirely for administrative purposes, medical treatment, the culinary department, and a small psychiatric department.

with the power trucks which will be used, patients can be taken from any part of the main building, through the tunnel, up to any floor, room, or balcony in the new building.

The kitchen, located on this floor, is a model of convenience, and has every device for cooking and serving of food to the class of patients for which this hospital is designed. It is divided into three sections—the scullery, where rough work and the preparation of food is done; the central portion, where all foods are cooked; and the serving portion, where the food is loaded into the food trucks preparatory to its transit to the various serveries. Connected with this department are the special dining rooms, store rooms, refrigerators, and service stairs.

From the main entrance hall, through a special corridor, are the rooms for the use of the special nurses, consisting of locker room, dressing booths, and baths. Adjoining the main entrance on the south is a series of waiting and examining rooms. Locker and toilet rooms are provided near the main entrance for the accommodation of staff members.

On this floor is a complete Roentgen or x-ray department with the most modern equipment. This consists of two operating rooms, control room, developing room, view room, plate storage, and toilet. A special room is set apart for the electrocardiograph, with wires extending to the different floors, so that records may be taken without moving the patient from his own bed. There is a large medical treatment department, consisting of the various baths—shower, needle, douche, sitz, continuous, carbon dioxide, etc. Also rooms for electric cabinets and for baking and hot packs and rest rooms, etc., are provided. A small psychopathic department with a continuous bath is provided for the occasional need of patients requiring rest and isolation.

While there are no patients located on this first floor except the occasional psychopathic patients, the entire second, third, and fourth floors, and a large portion of the fifth floor are devoted to their comfort. On the central axis of each story is a large airing balcony, of sufficient size to accommodate many beds and patients in wheel chairs. Connected with these balconies on each floor are the office of the head nurse and sitting room for nurses. On the west side, on the same axis, are located the serveries or serving kitchens, from which the individual service to each patient is taken. These serveries connect directly with the main kitchen through the service elevator. There are thirty suites of two rooms, with bath and private balcony; numerous suites with bath; and large private rooms with baths adjoining. Two rooms and a bath are provided on the attic floor for special noisy cases.

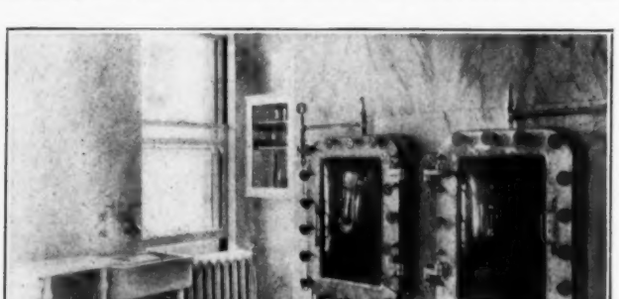


Fig. 6. Sterilizing room, showing special built-in dressing sterilizer.

The construction of the building has been carefully studied to avoid the transmission of noises from one part of the building to another and from one room to another. To that end, double floors and double partitions are built; also double windows everywhere. The entrances to all the patients' rooms are vestibuled with two doors. All latch bolts and all noisy hardware are omitted. The floors of the rooms are covered with linoleum, and the floors of the corridor with cork tile.

Careful study has been given to the decoration of the patients' rooms. Each room is provided with a special hospital lavatory, a built-in china mirror frame, surrounded by a tile and mosaic border, a semi-direct ceiling light, portable bedside light, telephone connection, nurses' call system and a clothes closet, through which the room is ventilated; this system affords ventilation to the contents of the closet as well as to the room.

In addition to the main balcony and the private balconies, on each floor there is a large day room on the north and a solarium on the south. Sink rooms, toilets, and baths, and linen, medicine, and broom closets are provided. The corridors are wide and the floors are laid in cork tile. Vacuum cleaner connections, fire hose, and drinking water fountains are provided on every floor.

The north portion of the fifth floor is set apart for the operating department. It has been the endeavor of the architects to make this department second to none, not in elegance and expense, but in simplicity and practical results. The operating rooms have been particularly studied for the results which are here obtained. The floors are of Tennessee marble; the walls of Tavernelle marble, of a tawny yellow color (selected for its softness and freedom from reflection); and the ceilings and cove of plaster, painted ivory white.

The light through the skylight is diffused by the use of special glass in the frames. The wall lights, as well as the ceiling, have a double sash, with heated air space between. The outside air

is admitted, after heating, through space between the sashes. There are no radiators or exposed fixtures in the rooms themselves. These rooms are artificially lighted through wall-paneled lights and intense hydrogen lights in front of powerful reflectors above the ceiling lights, which give the effect of daylight. Distilled water is brought from the still, located above, and reheated to any desired temperature in the room, this being the only fixture projecting beyond the surface of the walls. Built-in metal cabinets take care of supplies. A flushing floor drain provides for drainage. Compressed air, nitrous oxide, and oxygen are piped to each room.

In the sterilizing room, which is located between the two operating rooms, there is installed the most modern sterilizing apparatus. The dressing sterilizers, which have been especially designed for this pavilion, are built into the walls and surrounded with marble casings. These sterilizers have a special device for using superheated steam and for condensing the moisture to give dry dressings. The surgeons' scrub-up is in the open corridor. It is simple in construction, the water being turned on and off by the touch of an elbow. Here also are the built-in cabinets for hot blankets and instruments. The nurses' workroom, the surgeon's dressing and locker room, the plaster room, the cystoscopic and anesthetizing rooms, the laboratory, and orderlies' room are all here provided. Distilled water is provided not only for surgical purposes, but for drinking water for the entire pavilion. A room is set apart for this plant in the attic space, and the water for drinking purposes is cooled and circulated throughout the building to drinking fountains on each floor.

The heating is by hot water, forced by pumps from the hospital boiler plant through a special tunnel. The radiators are set well away from the wall and floor, and are supported on brackets.

The nurses' call system consists of a locking push button at each bedside, recording the number of the room at the various nurses' stations on each floor by a silent electric light annunciator and by a signal light over the door of the patient. In addition to this, an elapsed-time recorder, making a record of every call, is provided in the main office of the building.

Exhaust ventilation is provided by means of fans directly connected to electric motors. The air is drawn from the rooms through the ducts.

The rooms in the Ross Memorial are finished as plainly as possible. The walls and ceiling are painted in soft dull colors, either in cream, gray, or pale blue. There is no wainscoting, and the doors and windows are built on a level with the walls, so there are no ledges where dust may collect. The floors are of cement with battleship linoleum inlaid to within a foot of the wall, where the cement is raised to form a narrow shelf which prevents beds or articles of furniture being pushed against the wall. The furniture consists of lounge, Morris chair, small chair, bureau, bedside table and bed. All are made plainly in order to guard against the lodgment of dust. The beds are enameled either gray or white, according to the color of the room; they are on wheels, fitted with stationary Gatch, and the legs are provided with pins to elevate head or foot as desired. The furniture in the gray and cream rooms is of mahogany and in the blue rooms of white enamel. The lounges and Morris chairs are upholstered in gray leather and have slip-over covers of bright-colored cretonne. In many of the larger room there are wash curtains of the same material covering lounge and chair. Each room is fitted with necessary sick room articles, such as hot-water bottle, ice cap, etc. A majority of the rooms have private baths and balconies, which are between adjacent rooms and can be used by either room as desired. On each floor are two suites of rooms which are at the extreme ends of the building and are separated from main corridor by swing doors. This location insures absolute freedom from ward noises. Each suite consists of bed room, sitting room, bath, and private balcony. Each sitting room has a fireplace with a mantel, a writing table, a lounge, and easy chairs. All rooms in Ross Pavilion have double doors. The inside ones are fitted with Yale closers. A very pleasant feature of the wards is found in the sun rooms at either end of the long corridors, which are fitted with lounging chairs, couches, writing table, palms, ferns, and gay-colored cushions. Patients find these sun rooms a pleasant change from their own rooms, and many hours of convalescence are spent enjoyably there.

Fig. 7. The kitchen is described as "a model of convenience," and it is arranged and equipped to do the most efficient work both in cooking and service.

## IMPRESSIONS OF DESOLATED BELGIUM

### The Germans Have Left a Wilderness in the Country and Misery Among the People—Belgium Needs Material Aid and Moral Encouragement From Us

By Captain Dr. René Sand, Lecturer in Social Medicine, University of Brussels

I AM back after fifty months in my home in Brussels.

Leaving the front hospital where I worked two years in the sand dunes south of Nieuport, I crossed the Yser at Dixmude. I think Belgium ought to be entered by no other way.

I stood gazing at what has been the closed gate of my country since 1914; and I wondered again how multitudes of men have been able to live in this cataclysmic wilderness, where shattered stones seem to have been projected by a volcano, where there are no trees, no hedges, no grass, but holes and holes and mud. Since the soldiers have left, even the birds have deserted the solitary fields. Silence, desolation, and abandonment show us Death in the torn-up ground, Death in the turbid, yellowish flood, Death in the broken stones themselves — so strange and tragical is their shape.

After miles and miles, when the oppression of horror has become almost unbearable, you suddenly see life again; a cow lies on a small patch of grass, preserved in the universal destruction; some slender trees appear, and, finally, a poor rickety old house, scarcely higher than the uplifted hand of a man, in front of which some children wave flags at us as we pass by. And so to Bruges, Ghent, Antwerp, Malines, Brussels. I cross the dear old cities. How aged and sad and silent they look, and how pale and thin and worn out are the people! There is a flash in their eyes when they see our uniform, but those eyes will not smile again. Hunger and despair have banished joy forever.

I look around and ask, trying to understand. We who come from the free, fighting world, we are so different from those bent creatures. They have been so downtrodden by the invaders that you see the prison look in their faces. They seem to belong to another world. We are a century ahead of them. Some of us have suffered, all of us have seen terrible suffering and looked death in the face, but the experience was ennobling.

Here, on the contrary, starvation, treachery, and oppression have been demoralizing. Some Belgians have become agitated, almost querulous. Others are timid. Most do not feel the full change still. Something is wounded inside which time and patient care only will heal.

Railways, harbors, manufactures are destroyed. Materials to rebuild are lacking. The surrounding countries, themselves impoverished, have little

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"Holes and holes and mud! Since the soldiers have left, even the birds have deserted the solitary fields."

to share with us. Living in Belgium is now six times more expensive than formerly, and most people are ruined and out of work.

The reshaping of our industrial life will take two years at least; we shall start again physically and morally depressed, with the handicap of four years' intellectual isolation, with the helplessness of a pauperized country.

We want experience and science and moral guidance to polarize our scattered nation. We want the optimistic, never-doubting American to give us a lift. We want to feel the strong, safe hand of a friend grasping our weakened arm and leading us out of the dark wood to hope and light again.

Will America be our good Samaritan?

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Red Cross workers in one of the ruined streets at Nieuport where the fighting was fiercest.

## Suggestions by Dr. Sand for an American Foundation in Belgium

PERHAPS the best form that an American foundation in Belgium could take would be a school for social service. We have no such school either in France or in Belgium. Only a few Belgians know that such schools exist somewhere in the world.

Our philanthropy is still fragmentary and empiric. During the German occupation, however, something new occurred; women and girls began the welfare work with mothers and children. So a school of social service would find plenty of right-spirited and already more-or-less prepared pupils. The school would (1) give us your American documentation, experience, and viewpoint on social problems and remedies; (2) investigate our conditions according to American methods; we have no proper *surveys*; (3) educate social workers and stimulate our backward charitable and philanthropic institutions; (4) irradiate the American spirit of energy, self-respect, reform, and social sense. These would be our advantages.

Yours would lie in the fact that the school could be used by American sociologists as a laboratory of experimental social science and a research center.

Such a school ought to be created in Brussels and more or less connected with the university. The two institutions would help each other effectively. The professors ought to be American men and women with special experience in social work. Perhaps some could come and lecture during a few weeks or months only in order not to interrupt their career in the United States.

The language difficulty would not be great. Most of our educated girls speak English, especially since the war. During the first two years the school could be run entirely in English. Then among the first batch of pupils some would be found who could act as assistant professors and help with the French-speaking pupils. So the school would gradually take root in the Belgian soil.

# THE ROLE OF THE INTERN IN THE STANDARDIZATION OF HOSPITALS

## Important Changes Necessary to Provide Thorough Training for Interns—Affiliation of Hospitals Desirable—Standard Basis for Hospital Graduation an Important Feature

By WALTER C. ALLEN, B.S., M.D., Chicago

WHETHER a physician is to become a surgeon, an internist, or a specialist, it is the duty of the hospital to see that he is trained for his work, and it is the duty of the medical colleges, the state, and the public, to say nothing of the intern himself, to demand it. The hospital must become the clinical laboratory of the medical school. The progressive movement toward the requirement of a fifth or hospital year for graduation from the medical school and recognition by the state board will place new and weighty responsibility eventually upon the hospitals. It is reasonable to suppose that, if hospital experience is to become a requisite to the practice of medicine, steps will be taken to see that such hospital experience is adequate.

Revolutionary changes are necessary before the intern can obtain the training which is his proper heritage. The training of interns must become one of the recognized functions of hospitals, whether they enjoy close affiliation with medical schools or not, and the rôle of the intern must become one of the factors in the standardization of hospitals, just as an adequate training school for nurses must be one of the items in the classification of hospitals. Now, how does this affect the administration of hospitals?

Hospital trustees and superintendents must first be brought to appreciate the fact that thoroughly trained interns are among their most valuable assets. Private and semi-private hospitals depend for their existence upon their standing in the community and their service to it. This standing and service depend in no small measure upon the service which interns and nurses are able to render to the patients and the hospital. The higher the *esprit de corps* of the intern staff, the more efficient will be the service of the hospital to the community. The size of a hospital should not determine its classification as a Class A hospital, but its organization for efficient service to the community.

As regards the training of interns, there should be a general affiliation of hospitals, so that the training which is not available in one hospital may be available to the intern by assignment to limited service in another hospital. With such affiliations, small hospitals might send their interns for brief services to larger hospitals for duty on the special psychopathic, neurological, dermatological, gynecological, obstetrical, pediatric, tuberculosis, eye-ear-nose-and-throat, or other special services.

This affiliation might be broadened to include such features as central purchasing power, standardization of records, and the reciprocation of facilities. For example, given four small city hospitals, one hospital might maintain a genito-urinary service for the use of all four, another a gynecological service, another a tuberculosis service. Such concentration has its obvious benefits.

Another form of affiliation is that existing, say, between a group of small city hospitals and special hospitals, such as psychopathic, neurological, lying-in, children's, and chronic disease hospitals. Many of these special and state hospitals have great difficulty in obtaining good interns. Under a system of affiliation, this problem might be solved by the assignment to them of interns from the general hospitals by rotation. Bellevue and Allied Hospitals, New York, illustrate some of the benefits of affiliation, especially as regards administration. Bellevue and Allied Hospitals has also extended the movement toward affiliation to include the training of nurses sent to it from smaller hospitals. Affiliation for the training of nurses has been furthered by the organized associations of nurses. It is quite possible that similar help might be rendered by such a representative body as the American Medical Association.

The establishment of fifth and sixth hospital years in the medical curriculum may be expected to work a radical change in the appointment of interns. The medical schools must contract to furnish the hospitals with sufficient well-trained interns to man the staffs. Hospitals should hail such a change with joy as ending once for all the scramble (sometimes disgraceful) of medical students for internships; the humiliating scramble for interns by small or less attractive hospitals, which are often forced to bid in competition with other hospitals and to offer bait in the form of bonus or salary for such services; and lastly, the flight of interns from hospital to hospital, leaving behind them a trail of dishonorably broken contracts.

The whole system of salaries for interns is pernicious in the extreme; the only true way is to consider internships as schools of experience and training. If there is to be an exchange of the coin of the realm, it should be from intern to hospital, and not from hospital to intern.

Where such experience and training can not be obtained, a higher authority should step in and secure such reorganization and affiliations as will guarantee the requisite training. Medical schools should assign their students to hospitals just as they would assign them to groups for fourth-year medical work. The choicest internships should be awarded on a basis of scholarship. Efforts should be made, by organization and affiliation, however, to make all internships of equal value.

The intern should be made to file with the dean of the medical school the certificate of graduation from a hospital before being granted his degree, just as he is required to dissect a cadaver satisfactorily or deliver six patients in labor.

Under such a system, internships become stewardships, requiring the performance of duties in a satisfactory manner. The proper execution of the paper work of a hospital—birth certificates, death certificates, insurance and workingmen's compensation reports, and the histories, physical examination, operation, and laboratory records of patients—can be insisted upon. Hospital records will become more than mere worthless scraps of paper. The medical and surgical care of patients can be properly assured.

Such new relations, however, are not without their added responsibilities to the hospital. The intern will be entitled to training. This may mean that the visiting staff will have to revise their relations with the interns or get out. In other words, their own interests, possibly selfish ones, may have to accommodate themselves to the end that proper training and experience be assured the intern. The visiting staff may have to spend more time at the bedside and in the operating room. Nor will it be possible to kick an intern out of the hospital at the whim of a member of the staff. The power of the medical school may be expected to insure the intern against dismissal without just cause and a fair hearing.

Concise hospital rules should be established and rigorously enforced, infraction of which should constitute the basis of dismissal. Interns should be made to wear uniforms and should be supplied with the tools of the profession, stethoscope, steel tape, bandage scissors, hematocytometer and percussion hammer. An alumni association of the interns graduated by the hospital should be encouraged, with advisory powers in the standardization of the hospitals as it relates to interns, and with frequent clinical meetings to utilize the clinical material of the hospital, and to arrange for medical programs to present the results of research by the staff. The hospital certificate of graduation should assume the importance and dignity of the diploma of the medical school itself. There should be a standard, uniform, or universal form of hospital certificate of graduation covering the minimum requirements of all hospitals coming under the classification of approved hospitals. Further distinguishing marks could be added to this standard certificate, as, for example, a gold seal for noteworthy operative technique, recognized discoveries, or original contributions or research in medicine.

A representative of the superintendent, of the hospital trustees, of the medical staff, or of the medical school faculty should be empowered to keep a tally of those things which the intern must have performed as prerequisites to hospital graduation. To present the matter more graphically, let us enumerate some possible prerequisites:

(1) Reports of microscopical analysis of a series of centrifuged urinary sediments; (2) quantitative determination of the sugar by Fehling's reagent in a diabetic urine; (3) demonstration of satisfactory technique for staining smears for tubercle bacilli, gonoccoci, and the diplococci of meningitis; (4) demonstration of malaria plasmodium by appropriate stain; (5) guiac test for blood in feces; (6) isolation of ova of intestinal parasites; (7) performance of Widal reaction; (8) complete gastric analysis; (9) culture of diphtheria bacilli and demonstration by stained smear; (10) analysis of a spinal fluid; (11) preparation of stock solutions and stains; (12) blood pressure determinations; (13) series of approved histories and physical examinations; (14) management and medication of cases of pneumonia, typhoid fever, acute rheumatism, diptheria, measles, scarlet fever, tonsilitis, acute cardiac decompensation, acute nephritis, gonorrhea and syphilis; (15) differential diagnosis of case of coma of unknown etiology; (16) percentage feeding of a series of bottle-fed babies; (17) care of case of acute mental disease or of delirium tremens; (18) eliminative treatment of a drug addict; (19) management of second and third stages of labor; (20) diagnosis of pulmonary and renal tuberculosis; (21) prescription writing and pharmaceutical preparation of same; (22) diagnosis by x-ray of fractures, tuberculosis, renal calculi, empyema, Pott's disease; (23) performance of an autopsy and preparation of report; (24) performance of circumcision, tonsillectomy, paracentesis for acute suppurative otitis media, empyema and ascites, herniotomy, appendectomy and treatment of varicose veins, varicocele, hydrocele, burns and fractures and skin-grafting, venesection, intravenous administration of salvarsan, transfusion and hypodermoclysis and regulation of a Murphy drip; (25) a neurological examination; (26) a diagnosis in a case of mental disease such as dementia precox; (27) diagnosis and treatment of a dermatological condition.

One has only to glance over a list such as has been given (by no means complete) to realize how far short the hospital comes from training the intern with the thoroughness required. The hospital year in medicine, the A-B-C classification of hospitals, and a hospital certificate which means definite things in the training of interns and nurses are three very closely related matters which may be expected to command the attention of hospital managers in the coming decade.

## CANNING AND GARDENING FOR THE MENTALLY SICK

### The Women Can the Garden Products Which the Men Have Raised—Occupation Especially Valuable for Mentally Afflicted—Cannery Pays for Three Times its Cost in One Year

By J. CLEMENT CLARK, M.D., Superintendent Springfield State Hospital, Sykesville, Md.

THE Springfield State Hospital is located about twenty-five miles from Baltimore on the estate formerly owned by William Patterson, the father of the willful Betsy, who married Jerome Bonaparte. It contains nine hundred and forty acres of undulating land and twenty-four cottages, including a psychopathic reception building, and cares for fifteen hundred patients.

Fig. 1. Psychopathic Reception Hospital Building of the Springfield State Hospital.

It is conducted on the open-door system. Its broad fields afford employment for a large number of male patients in farm and garden work. The value of occupation as a therapeutic agent is now recognized as a *sine qua non* in the treatment of the mentally afflicted. The good effect of a few hours' work out-of-doors is inestimable in such cases; motor excitement and restlessness seem to find an outlet in it, mind and body acting together, as it were. The exercise in the open air

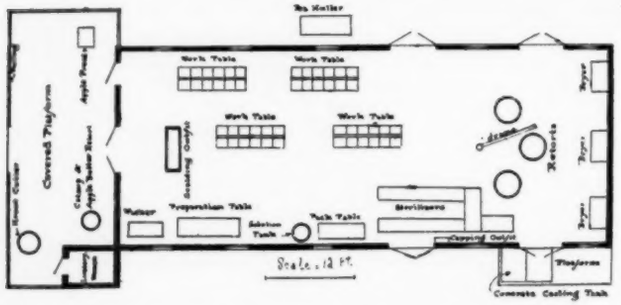


Fig. 2. Plan of cannery of the Springfield State Hospital. Note the compact, convenient arrangement of all equipment. The cannery was built of the lumber from an abandoned shack, and has paid many times over for its cost.

increases the appetite, promotes digestion, aids the action of the kidneys, stimulates the function of the skin, and often relieves insomnia. Medicine can do no more; besides, the constant use of medicine for such purposes is more or less harmful. Work properly regulated is not injurious but beneficial. The mental effect of work is also beneficial, helping the patient fix his attention, aiding memory, creating a healthy interest in his surroundings, thereby helping him forget his delusions, and, if he is a melancholiac, his unpardonable sin.

A great thinker has truly said, "Every man's task is his life-preserver." Large numbers of male patients in this institution have been employed in the various industrial shops, in road-making, grading, quarrying, on the lawns, and in the farm and garden, etc. An average of 60 per cent of the patients are employed in some useful occupation. It is no trouble to find occupation for men in large numbers where there is a farm attached to the institution, as every hospital superintendent knows but it is not the same with women in out-of-door occupation.

Fig. 3. Patients canning tomatoes in the cannery of the Springfield Hospital.

The women of this country have not been used to farm work, and we could never get our women patients or nurses interested in cultivating or gathering vegetables or fruit. It took the war and its many necessities to arouse them. Our women patients have been as fully aroused to the necessity of winning the war and in doing their bit as the women of the country generally, and we all know what that has meant. They have helped cheerfully in planting, gathering, and canning our crops. In canning they have been particularly useful and have worked daily, and even at night when necessary.

While, of course, we have canned fruits and vegetables in our kitchens, it was not until three years ago when we built a cannery that we were able to take care of any large crop of the smaller and more perishable vegetables. The cannery was built by our engineers and mechanics and is located near the power house, so that it is necessary to pipe the steam only about 40 feet. It was built out of the lumber from an abandoned shack, and the actual cost of the whole plant has not been over $500. It has all the equipment necessary, conveniently arranged. (See Fig. 2.)

The vegetables and fruits are carefully sorted before preparation, the unsound being culled from the select. In the case of tomatoes, the selected vegetables are then passed to the scalding trough, after which the skins are removed. They are then sent to the packing tables and when packed are immediately run through the sterilizer. The cans are promptly capped and placed in retorts under a steam pressure of 20 pounds until processed, when they are removed

Fig. 4. Patients gathering tomatoes in the fields of the Springfield State Hospital at Sykesville, Md.

and placed in the cooler, after which the canned product is ready to be stored. As all the waste from the preparation tables is utilized in the making of catsup, there is very little loss in the canning of tomatoes. Other vegetables and fruits are treated in a like manner except in their preparation and the time of processing.

The cannery equipment has a capacity of 800 gallons a day and the three evaporators a capacity of 100 pounds.

The following statement represents the product of the season of 1918 which, but for a drought cutting off some of the vegetables, would have been greater: 13,512 No. 10 cans of tomatoes; 5,302 No. 3 cans of tomatoes; 16,289 No. 2 cans of corn; 956 No. 3 cans of string beans; 543 No. 10 cans of string beans; 85 No. 2 cans of string

Fig. 5. In one door and out the other—to the right the whole fruit is being brought in, and the finished canned products are stacked to the left.

beans; 3,376 No. 2 cans of peas; 936 No. 2 cans of lima beans; 3,980 No. 10 cans of apples; 756 No. 10 cans of pears; 445 pounds of apple butter; 1,987 pounds of dried apples; 64 ½-gallons of tomato catsup, and 54 barrels of sauer kraut. The total value of this production is about $15,000.

In addition to the canning, which, as stated, was done almost entirely by the women patients, our male patients have cut and husked our own crop of corn, cutting off 109 acres and husking 847 barrels of corn. They have also cut off 208 acres and husked 968 barrels of corn for the neighboring farmers, and they have helped in a large canning factory in the village from time to time during the season, for which $600 was collected by the hospital.

Fig. 6. The broad fields of the Springfield Hospital where last year the patients picked tomatoes for nearly 30,000 cans.

## REHABILITATION THROUGH SYSTEMATIC EXERCISE

### Exercise Under Supervision Emphasized at General Hospital No. 9, Lakewood, N. J.—Treatment of Men Disabled by Disease, Gas, and Shell Shock—Educational Department Offers Choice of Future Jobs

By A. F. GUGEL, Sanitary Corps, United States Army, Lakewood, N. J.

GENERAL Hospital No. 9 at Lakewood, N. J., contains about eight hundred patients and

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Fig. 1. Exercise is the keynote of the treatment at General Hospital No. 9, Lakewood, N. J. This exercise is designed to regulate the action of the heart.

four hundred officers and corps men. The town itself lies in the heart of the famous pine belt of the state on the main line of the Central Railroad of New Jersey. It is sixty-three miles from New York City, sixty-nine miles from Philadelphia, and eighteen miles overland from the Atlantic Ocean. It is located on high ground on sandy soil 700 feet deep. The clear, dry air, laden with the odor of balsam, is classed by physicians as virtually the same as that of Aiken, S. C., and Arachon, France.

The peculiar softness of Lakewood's climate permits outdoor recreation throughout the winter season, and its beneficial results have been enhanced by systematic improvement of all accompanying conditions. The woods and paths through the pines are always kept in splendid condition to permit riding, driving, and long hikes. The multitudes of walks and rambles have been given careful attention in order to encourage strolls for those who must exercise carefully and cautiously, or tramps of several miles for the more vigorous patients. The most popular walk is that around Carasaljo Lake, a beautiful sheet of water in the heart of the resort, two miles long and about a quarter of a mile wide, surrounded by beautiful evergreens, laurel, and stately pines.

Taking all these conditions into consideration, Lakewood may be said to be the ideal spot for the reconstruction and training of the maimed and of patients with certain diseases like those of the cardiovascular system, which pertain to the heart and blood vessels, and troubles which require orthopedic treatment, such as round shoulders, abnormal curves of the arms and legs, slight stiffening of the wrists and fingers, etc. These deformities are given careful attention, and an effort is made to overcome them by light gymnastic exercise; usually the patients are discharged in practically a normal condition.

Treatment is given to a great many cases of

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Fig. 2. Carpentry is one of the many industries taught at Lakewood which permit the recovered soldier to return to civil life on an independent basis.

empyema, a disease which consists of an accumulation of pus in a cavity in the body, usually in the chest. Fever is usually but not always absent, and there is a fair condition of health. All the patients suffering from this disease should be operated on, and part of the rib over the site of the pleural abscess should be removed to permit drainage. Often the drainage is complete, healing takes place with adhesions, and fixation of the lung occurs in varying degrees at the site of the abscess. The cure is more or less complete except that the patient suffers from the general poisoning, which is finally eliminated by special diet, plenty of pure air, and light physical exercise along the line of calisthenics and light games.

Then there are the patients with kidney trouble, who, of course, receive treatment according to the seriousness of the case. Treatment for rheumatism is given at the hospital—hot baths, electric treatment, light exercise, etc. Operations for hernia were quite numerous before the armistice was signed, because it was necessary to per-

form an operation before the patient could enter the army, but, since the signing of the armistice, there have been fewer operations and cases have been treated in a different manner. A patient is usually discharged from the hospital in such condition that he is able to follow his usual vocation.

Special treatment and unusual care must be given to patients who were gassed or received shell shock, and to men recovering from operations. These cases all vary to some extent and some must have more careful attention than others. The patient is watched carefully by special nurses, and his family is notified of the operation.

General diseases also are treated. These are minor diseases which do not require any special study or prescribing. The patient may be put on a special diet and confined to his ward or room; his case is recorded and his treatment follows general lines. If a patient has nothing seriously wrong he is advised to take a certain line of exercise; this he is fully expected to carry out, and in this way he is usually able to overcome his general disability and in a very short time be back in his normal condition.

These are the various diseases which are treated

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Fig. 3. Toy-making is a useful occupation taught at Lakewood, which has a beneficial influence on the mind. It is particularly useful in cases of shell shock.

at General Hospital No. 9, their treatment, and its results. I can not say much about the treatment of the maimed, for we have but one patient of that kind—a young man who has lost one of his legs. He has entered the commercial department of the hospital and is learning general office work, which is suitable because he will not be compelled to stand upon his remaining leg and foot.

With all these diseases and ailments and their treatment there is one main and essential thing—physical exercise. This is compulsory with all the patients who are able to get out of the hospital. The patient who is able to be about is again examined by a physician and given a card or prescription as to what line of exercise he must take; he is then assigned to a class every morning and must report for exercise. Eventually he is discharged from the hospital and leaves for his home to take up the line of work he wishes.

Another phase of reconstruction is the work which is done by the educational department. This department is ably and systematically instructing the wounded men under the supervision of highly educated officers, former professors, and instructors supported by capable assistants. It is supplied with a list of the names of the men as they arrive and are assigned to their wards; the men who are not totally disabled are sent for and talked to, and an effort is made to interest them in some industrial work or study.

If a man becomes interested and decides to take up a certain work, a memorandum is sent to the ward surgeon; the patient must have a doctor's certificate; if the surgeon thinks that he is able to stand the work he is put in the department he has chosen. Sometimes the work chosen is too hard or does not please him; in that case he is transferred to another department until he finds a place he is suited with and work that agrees with him. His physical condition is closely watched, and, if he does not appear to be getting strong, he is given work that will also help to build up his constitution.

As a rule the educational work is voluntary on the part of the patient, but sometimes it is compulsory, as in the case of the patient who had received an injury to his arm which left the

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Fig. 4. New men from old—these soldiers will return to civil life in good physical condition and trained in drawing—the most useful of the arts.

fingers of the right hand in a stiff and paralytic condition; this man concentrated his mind so strongly upon the condition of his hand that he thought that he could not use it; he was sent into the mechanical department, where he was

compelled to use his hands and fingers considerably in gripping the tools necessary to carry on the work; and thus, by this exercise and through the work which distracted his mind from the condition of his hand, he was soon able to regain the full use and control of it.

The subjects which are taught in the educational department are as follows:

In the occupational aid work the men are taught stenciling, carving, metal working, leather work, knitting, knotting, weaving, basketry, reed work, toy making, model making, painting, bead work, etc.

In the curative workshop they are taught auto mechanics, machine shop practice, tailoring, shoe repairing, furniture repairing, boat modeling, toy-making, woodworking, pattern-making, printing, linotype operation, painting, mechanical drawing, blueprint making and reading, commercial art and poster-making, telegraphy, and general electrical work.

In the academic and commercial departments we have English for foreigners, elementary and advanced English for English-speaking patients, English for colored patients, elementary and advanced penmanship, algebra, high-school English, Spanish, commercial law, business practice, bookkeeping, elementary and advanced stenography, Gregg and Pitmanic, and typewriting. Besides these subjects, we teach as occasion arises and are teaching at present, French, trigonometry, and solid and plane geometry.

In addition to this, the education department has charge of all recreational work, entertainment, social functions, band practice, newspaper work, etc.

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## PHYSICAL EXERCISE IN THE CARE AND TREATMENT OF CONVALESCENT PATIENTS

### Partial Rest Combined with Carefully Selected and Graduated Movements Advocated—Nature the Most Potent Factor in Restoring Health—Qualified Physical Expert to Have Charge of Convalescent Patients and Prescribe Individual Treatment

By WALTER D. POWELL, Athletic Director, Sixth Naval District, Charleston, S. C.

THE problem of prescribing exercises designed to stimulate and strengthen weakened, rundown, or underdeveloped parts of the body has always been one of great interest to me. As a student and teacher of physical education, and a director of athletics both in college and in the army and navy, it is only natural that physical efficiency, fitness, and reconstruction matters should have come to my attention.

If more people would look upon their bodies as minutely adjusted mechanisms which need enough wear to keep them in good running condition but not so much that certain parts or bearings are overtaxed, our physical standards might easily be raised and our death rate lowered. Each individual is the engineer or caretaker of his body, so to speak. Some are endowed with better physiques than others, which is quite natural and right. Few are perfect. The strong should endeavor to keep their strength, and the weak develop that which Nature intended them to have. A care-worn, emaciated appearance is an open confession to the world that its possessor is a poor manager or engineer and vice versa. To neglect one's body to the extent that it becomes slight, corpulent, or unsightly is nothing short of criminal.

The object of this discussion is to call attention to the results which have been attained by a little care, thought, and diligence in exercising and caring for one's physical self. The following plan for the care and treatment of convalescents is applicable to both civil and service hospitals. However, it was originally worked out and put into operation in one of our naval hospitals. The one thought which must not be forgotten in developing the plan is that the work of the hospital is not completed until its patients are actually ready either for duty or for the natural pursuits of life.

The best treatment for convalescent patients has been a matter of discussion for many years. At one time it was thought absolute rest was the quickest and only effective method of restoring normal health. Some have maintained that a partial rest with frequent mild, graduated movements, designed to strengthen weakened parts and obviously suited to the general condition of the patient, would effect a more rapid recovery. It is with the idea of showing the efficacy of this plan that I am writing.

Granting that tremendous strides have been made in both medicine and surgery in the past few years, it must also be admitted that even now doctors strive only to allay chronic conditions by stimulating a normal flow of blood and keeping the various glands functioning properly. In other words, they realize their inability to heal and know that they are only agents working with the certain definite purpose in view of removing obstacles which impede normal, healthy life, or of

stimulating, on the other hand, those parts which have become lethargic and inactive, so that Mother Nature may accomplish the desired end.

Realizing, then, that Nature is, after all, the most potent factor in restoring or preserving health, why should we not be more solicitous about the welfare of patients after they actually leave the sick wards and begin their convalescent journey, instead of putting all of the emphasis upon their care when in bed and giving none immediately thereafter? In both the army and navy it has been customary to give a patient who is recovering a sick leave of thirty or sixty days, the idea being that the rest, change of scenery, and the possible visit home may have a valuable psychological as well as physical effect on his condition in general. In some cases this plan works out well, but too often men in the service who are granted furloughs rush away on the first train to their homes, eat anything and everything at irregular hours, sleep in crowded, improperly ventilated cars, and take cold. As a result many relapse into a condition worse than the first. To obviate this evil the following plan is presented.

In all hospitals of sufficient size as to be practicable, a qualified physical expert should be provided and should be regularly attached to the hospital staff. As opposed to the chief of surgery, chief of medicine, or chief of contagious section, he should be known as chief of convalescents or some other equivalent title. His duty is to take charge of all patients as soon as they are able to leave the wards and prescribe the kind and amount of physical exercise necessary for each individual case. As people differ widely in resistance, as well as in degree of sickness, it is necessary that the chief of convalescents watch the temperature, heart action, and all-around condition of his charges carefully. In many cases only the slightest, simple movements should be given. In others more vigorous ones may be required. He should take especial care that breathing exercises are made a part of the daily routine. As the men grow stronger, although still not able to go on duty, easy light games, such as cricket, quoits and volley ball, may be started. Later on, basketball, handball, boxing, and wrestling may be added. A weight sheet must be kept and all patients weighed regularly each day. If weight is falling off exercise must not be given. The convalescent records might well be added as a supplement to the regular health records or histories. The physical director should see to it that the men have enough recreation so that they will have no time to brood. If they are contented the battle is half won. Keep them in the open air and sunlight as much as possible, and, most of all, teach them how to breathe pure air properly.

## HOSPITAL DIVISION OF PUBLIC HEALTH SERVICE ENLARGES

### Prompt Response of the Service to Law Providing Hospital Care for Returned Soldiers

The large amount of work thrown on the hospital division of the United States Public Health Service by the demands of discharged soldiers, sailors, and marines have compelled it to move to larger quarters at Ohio avenue and Fifteenth Street, N.W., Washington, D. C.

Less than two weeks after the law was passed whereby the Public Health Service was designated to provide hospital and sanatorium care for sick and disabled men discharged from military and naval service, a hospital was opened at Houston, Tex., for this important work. The hospital, which has a capacity of 1,500 patients, is in charge of Surgeon J. M. Holt. A second hospital, with Surgeon E. A. Sweet in charge, was opened April 1.

To provide for the care of mental cases, the Public Health Service has taken over the Dansville Hospital in New York State, with accommodations for 250 men. Plans are made for the opening of two tuberculosis sanatoriums, each one of which will provide for 1,500 patients; one will be devoted to the care of colored patients; one to white.

The work of caring for discharged soldiers and sailors, conducted in cooperation with the Bureau of War Risk Insurance, is directed by Assistant Surgeon-General W. G. Stimpson on behalf of the Public Health Service and Assistant Surgeon-General Charles E. Banks for the Bureau of War Risk Insurance.

## CITY-WIDE HEALTH CAMPAIGN TO EDUCATE PUBLIC

### Health Week Held in Baltimore Drives Home Lessons Taught by Recent Influenza Epidemic

Under the direction of a campaign committee headed by Dr. J. H. Moss of the Hebrew Institute, the recently organized Jewish Health Bureau conducted a health campaign in the city of Baltimore from April 5 to 12. The object of the campaign, according to Dr. Moss, was "to capitalize the recent influenza epidemic." Believing that the public was in a receptive frame of mind in regard to health matters, the bureau decided that the opportunity to drive home needed lessons should not be lost.

The campaign was held in a most thorough fashion throughout the week. Noted speakers who are experts on health subjects addressed the various gatherings and mass-meetings, and all addresses were given in Yiddish as well as in English. On the opening day, April 5, the rabbis in all the synagogues of Baltimore spoke on health topics. The next evening a mass meeting was held at one of the leading theaters, at which a musical program was presented, several well-known physicians spoke, and moving pictures on health topics were shown. This was followed every evening during the week by meetings at the Jewish Educational Alliance, at which some particular subject dealing with health was discussed.

Health Week was merely the forerunner of what is intended to be a widely organized, consistent, and persistent battle against disease through the education of the Jewish people of Baltimore in preventive health measures.

# A CONVALESCENT HOSPITAL IN WAR SERVICE

## How Burke Foundation Cooperated with the Government—Giving Convalescent Care in the Country to Sick and Wounded from the Navy

By FREDERIC BRUSH, Lieut. M.C., U.S.N.R.F., Superintendent of Burke Foundation, New York

A BRIEF record of one distinctly American civil institution in the world war may afford some values.

The Burke Foundation, maintaining three hundred beds for convalescents in the country, offered its plant and services to both the army and navy when war was declared. Its superintendent enrolled in the Naval Medical Reserve Force, arranged for continuance of the standardized administration, under able and patriotic assistants, and entered active duty on leave of absence. An average percentage of staff members and employees left to enlist in the various services.

The first year saw the maintenance of regular convalescence, plus the final preparation of large numbers of defective men sent us for wound-healing, weight-gain, etc., through definite cooperation with recruiting agencies; war-supplies work of all kinds by employees and patients which was made to displace largely the latter's therapeutic and diversional occupation; and a persistent inculcation of the war spirit throughout, bringing readiness to change and extend duties, adapt, sacrifice, give. A militant governing board pressed all resources toward war-winning.

In April, 1918, when the navy sick and wounded began to number thousands, where was provision for hundreds only in the Third District, Captain Lung, commanding at New York Naval Hospital, arranged for convalescent sick-care of naval men in the Foundation to the extent of two hundred beds, or of the entire institution with extensions if emergency should demand, the staff and the civilian type of service to continue, with some necessary military modifications.

Fig. 1. Morning "set-up" in the open.

The superintendent was fortunately enabled to be detailed back as naval supervisor; and then began a memorable period which tested the strength and adaptability of this young institution in a way that leaves it hereafter unafraid.

Fig. 2. A safe port.

Country convalescence of navy men was essentially new, and when the authorities at Washington learned that women patients were quartered in the same group of buildings, "doubts were expressed"—to put it gently. But the navy promptly filled their quota, and as they came, civil patients were sent home, often in large groups and only partially recuperated, but giving place with a spirit that we shall never forget—limping away, cheering, longing only for strength to get into the fight.

Fig. 3. The croquet tournament.

Here was a group of two hundred young sailors and marines, mostly active, highly fed, not held steady by daily training, quartered at the edge of typically troublesome drink and social conditions of a small country city. They pressed daily with new problems, habits, usages. A rather strict military camp type of rule was set up. Within the institution, "give and take" well expresses the early process, which ended in the old atmosphere, the pre-war tone, pervading.

As this was the first group of sick returned service men in the county, it brought considerable well-meaning but frequently harmful civilian effort to "do something for the boys." Better organization and understanding soon brought about helpful cooperation; and "Burke navy" men

were constantly detailed to aid in the loan-drives, war-fund entertainments, and various supporting functions for miles around.

This large subtraction from New York City's convalescent facilities disturbed social service and other patrons at first, but the Foundation met the need by opening a forty-five capacity farm branch for civilian men, and by finishing and adapting certain waste spaces in the main buildings. The civilian demands also lessened rapidly, due to the abnormal composite of war conditions, and the Foundation came through with the unexpected satisfaction of having maintained its endowment obligations to the city, while meeting at every turn the call of the national government.

Fig. 5. Leaving—fit for duty.

Our city admission department, with its regular activities but little lessened, conducted the trying naval admitting and information work, and found ways somehow to function extensively in many war-aids, and later in the influenza epidemic, well exemplifying the extra energies loosed everywhere by the great stimulus.

Fig. 6. Saluting the colors.

The question of the desirability of country convalescence of naval patients in peace times will not be here considered. The Foundation in the year cared for sixteen hundred navy patients, under military discipline, transporting them and their heavy equipment twenty-five miles each way by motor bus (besides constant transfer of men back and forth to special appointments), did an average of seventeen hundred surgical dressings per month (seventy empyemas were present at one time), kept up the voluminous naval "paper-work," entertained boards of survey, the paymaster regularly, representatives of the Federal Vocational Board et al., cooperated constantly with war-relief agencies, and maintained supervised recreation and therapeutic occupation — done with an overworked staff and a shifting force of employees, with a record of one death from disease and one accident that required surgical repair, and a minimum of serious disciplinary exactions.

Fig. 4. The navy "crip" team beat the country's best.

A comparison of naval with standard civilian convalescence would bring out much of interest, mainly that the naval convalescence is much the less successful, from a medical point of view. Yet it shows the measure put upon this unique war-time service by the naval authorities that a rating of 100 per cent throughout has been given us in the official report on about forty auxiliary civil hospitals utilized in this district.

Fig. 7. A game of soccer, better for the boys than massage.

One day, when our place was filled with all classes of patients, came a telephone message: "Can you take twenty to thirty commissioned officers this afternoon?" "Yes," was the answer, given with no vision as to how it could be done. In five hours all was arranged, with a new dining service opened, etc. This is told to indicate the rather narrow motive of this sketch: Hospitals which got deepest into our war work, like individuals, got most in return. This institution by saying at the outset, "Yes, we are ready, use us fully"—acquired an experience, an assurance, a maturity, that years of civilian practice would not have duplicated. The essence of it is in a feeling of new flexibility and capability, with a stronger sense of obligation to the community.

## THE IMPORTANCE OF DENTAL SERVICE IN THE HOSPITAL

### Importance in Diagnosis and Systemic Disease—Possibilities of Scientific Research in Dental Department—Large Field of Operation Found Among the Children

By ALFRED A. CROCKER, Cincinnati, Ohio

DENTAL service is necessary along with medical service in healing systemic disease. The relationship of the teeth to systemic diseases as foci of infection, or at least as relay posts from which the infection is increased, has so repeatedly been demonstrated that most physicians recognize it as a valuable element in their diagnosis. The examination of the mouth condition of the patient furnishes valuable data in determining the treatment of the patient while in the hospital, as it tells whether, owing to the presence of pyorrhea, alveolar abscess, blind abscess, impacted unerupted teeth, the teeth can be counted in the treatment to follow, or eliminated from consideration. Work for the dental department of a hospital is furnished by maternity cases, children's teeth, and cases in which arsenic, iodides, mercury, or phosphorus are prescribed. Facilities for difficult extractions under anesthesia and for scientific research are also afforded by a hospital dental clinic.

During a recent visit to the Jewish Hospital in Cincinnati, where they have a dental clinic with Dr. Samuel Rabkin in full time attendance as dental clinician, I was shown the hospital card on which the tooth condition of all patients is recorded by him. All his findings are recorded thereon and furnish data which very often help the hospital board, together with the records placed on the same card by physicians and specialists in the hospital's other departments, in arriving at the correct diagnosis and subsequent relief and restoration of the patient to full health and usefulness. As Dr. Hexter, the supervisor, explained, it is not enough to place the patient on his feet; to restore the patient to his or her normal self, if possible, is the aim of the hospital, and it takes an analysis from all departments to do it property. Another work performed by the dental clinic at the Jewish Hospital is the care of children's teeth, the advantages of which all welfare authorities readily recognize. This work is part of the oral hygiene movement which is so active in all parts of the United States.

Besides the hospital dental work above outlined, research work in dental pathology and dental bacteriology is carried on in connection with cases presented at the hospital. This work has shown valuable results and has been of much benefit to the patients treated at the hospital.

A visit was also made at the Cincinnati General Hospital, where Dr. W. S. Locke has charge of the dental department. Patients arriving at the hospital for diagnosis and treatment are taken to the dental clinic at the direction of the attending physician. If the patient is unable to walk, a wheeled chair or a wheeled stretcher is used to convey the patient there. After the instrumental examination of the teeth, the dental clinician sends the patient to the x-ray department for a complete dental roentgenographic examination. Ten films are taken, five upper and five lower, covering the complete mouth. One of the large machines is used on a two and one-half spark gap. The developed films are returned to the dental department and, together with the clinical report thereon, sent to the attending physician with the dental recommendations for the case. The dental diagnosis, along with the attending physician's diagnosis of symptoms and other tests, such as urinalysis, bacteriological, etc., make up the case history, which is kept on an indexed chart or card. In all cases the clearing up of mouth conditions accelerates recovery from the systemic conditions. Part of every day is devoted to the care of children's teeth at the Cincinnati Hospital. Children from the city and neighborhood are brought to the hospital. Care of their teeth is along preventive lines and correction of irregularities and dental advice to the parents. Children from five years up receive this attention and learn the value of care of the teeth.

Oral surgery is performed for all patients coming to the hospital, who receive immediate attention by the skilled operatives in the dental department.

Dentistry in the hospital has shown its value in so many ways and so many patients arriving at the hospital require dental care that the department is very much in demand.

Pourquoi soigner vos dents
Soins journaliers indispensables
Une dent propre ne se carie jamais.
Rincez-vous la bouche après chaque repas pour enlever toute particelle alimentaire qui risquerait de provoquer la carie des dents.
Brossez-vous soigneusement les dents le matin et le soir; les dents se cariant davantage la nuit que le jour.
1
N'oubliez pas de vous brosser le côté interne des dents.
Une manière défectueuse de se brosser les dents fait contracter les gencives et facilite la perte des dents.
Brossez-vous les dents du haut, de haut en bas; celles du bas, de bas en haut; jamais dans la direction horizontale.
Soins spéciaux aux enfants
Les soins à donner aux dents doivent commencer avec la
2
3
4
5
Pour décrasser les filles comme les garçons
Enseignez aux tout petits l'emploi de la brosse à dents; ils s'en serviront toujours par la suite.
Les dents de lait ont un rôle défini à réaliser; elles ne doivent pas tomber avant qu'il ait été rempli.
6
7
Les dents les plus importantes sont les molaires que l'enfant perce vers sa sixième année.
Ce ne sont pas des dents de lait, mais des dents permanentes.
Surveillez-les et sauvez-les.
Beaucoup de maux appelés maladies d'enfants proviennent des dents.
Il est plus important pour les enfants de se brosser les dents que de se laver la figure.
Entretenez vos armes
Faites-vous examiner les dents par un bon dentiste au moins une fois par an. Agissez de même pour vos enfants, vous
8
9
Pourquoi soigner vos dents?
éviterez la douleur, la dépense et les stations pénibles dans le fauteuil du dentiste.
Les trois quarts des dents cro-chues sont causées par l'absence de soins des dents de lait.
Sauvez la dent en la faisant plomber
10
11
Si une dent est sensible au sucre, au froid, à la chaleur, c'est qu'elle s'altère; faites-la examiner sans retard.
Si les gencives saignent sans raison, cela indique une inflammation sérieuse.
Pour vaincre le mal de dents
Mieux vaut prévenir le mal que le soigner.
12
Bon Bons
Bonbons
13
Une dépense de 5 francs pour soigner la première dent abîmée peut économiser 50 francs pour la deuxième.
Une bouche saine et des dents propres sont l'une des meilleures et des plus sûres sauvegardes de la santé.
Quand on perd une dent, c'est pour toujours; la meilleure imitation ne la remplace pas.
Se brosser les dents est aussi important pour les pauvres que pour les riches pour l'ouvrier que pour la femme élégante.
BONNES DENTS
BONNE MASTICATION
BONNE DIGESTION
BONNE SANTE
14

"Why Care for Your Teeth?" an eight-page pamphlet issued by the Bureau d'Assistance à l'enfance of the American Red Cross in France, contains these delightful French babies drawn by L. Stephany.

1. Upon leaving the table I always rinse my mouth. 2. Morning and evening I brush my teeth. 3. Brush your teeth up and down. 4. I have only one tooth but it is clean. 5. Do not forget to brush your teeth on the inner side. 6. Teach the use of the toothbrush to all children, girls as well as boys. 7. Look at me! I didn't take care of my teeth. 8. I am uncomfortable; it must be my teeth. 9. How a neglected tooth can make a swollen cheek. 10. If you wish to be pretty do what I am doing. 11. She washes her face but does not brush her teeth. 12. Have your teeth examined by a good dentist once a year. 13. I can't eat candy any more; I must go to the dentist. 14. If you had brushed your teeth you would not suffer from them.

# MEDICAL ASEPSIS IN FRENCH AND ENGLISH HOSPITALS*

## Experience Shows That Medical Asepsis Is More Efficient Than Isolation in the Prevention of Cross-Infection

By D. L. RICHARDSON, M.D., Superintendent Providence City, Providence, R. I.

MEDICAL asepsis is surgical asepsis applied to the control of infectious diseases. The technique, based on the avoidance of contact and the sterilization of all contaminated objects, is familiar to every physician and nurse from operating room experience. A second term now frequently used carries the same meaning, namely "aseptic nursing."

Medical asepsis was first introduced in the eighties of the last century by pediatricians. They were accustomed to see the ravages of contagious disease among children in institutions. It was at this time customary to put children in large wards. The pediatricians first demanded small rooms, and secondly, real isolation by practicing what the surgeons were doing in their work.

Dr. Bourneville, about this time, built at Bicêtre, France, a model pavilion with rooms for a single patient; in this pavilion were treated measles, scarlet fever, diphtheria, etc.

Professor Richard, of Val-de-Grâce, 1890, advised individual isolation for measles.

In the same year Sevestre concluded a study of the complications of measles and made this statement: "The seriousness of measles in hospitals, especially in the Hôpital des Enfants Assistés, results almost always from complications brought on by secondary infections, particularly bronchopneumonia. It is in general neither a manifestation of measles nor caused by cold, but is positively the result of secondary infection." He advised the separation of straight measles patients from complicated cases and the practice of medical asepsis.

At the Hôpital des Enfants Malades in Paris, Dr. Grancher urged medical asepsis in 1888. In 1889, he reported that the individual isolation of measles patients and the isolation of diphtheria in a special pavilion did not reduce either cross-infection or mortality. After ten years' experience, from 1890 to 1900, he concluded that isolation without medical asepsis was useless and that the rules of asepsis should be rigidly enforced.

This hospital was a general hospital for children. Into the wards he admitted diphtheria, scarlet fever, and measles patients among the miscellaneous diseases. He surrounded the beds of patients sick with these diseases with a wire screen and within this enclosure were kept the nursing utensils for that patient. A gown was worn by every one entering the barrier, and hands were washed on leaving. During the ten-year period, 6,541 patients were treated in his wards. Diphtheria was admitted forty-three times, and only one case developed. Scarlet fever was introduced, and seven cases resulted. Less success was obtained with measles, but Grancher was satisfied that even measles was not carried by the air.

In 1900, Moizard, who was also connected with the Hôpital des Enfants Malades, reported that among 5,016 children suffering from contagious diseases, only seven cross-infections occurred. Six were cases of measles and one of diphtheria. He practiced individual isolation and asepsis.

Fig. 1. Room used in the box system of isolation at the Pasteur Hospital, Paris, and its furniture. (From the *Revue d'Hygiène*, March 20, 1912.)

On the strength of these experiments, 500,000

*This is the second article in a series on the care of infectious diseases in hospitals. The first, entitled "The Care of Infectious Diseases in Hospitals," appeared in the April issue of THE MODERN HOSPITAL; the third, on the construction of infectious disease hospitals, will appear in June.

francs were raised for the building of the Pasteur Hospital. This was completed in 1900.

It consists of two pavilions of two stories, each of which affords accommodation for sixty pa-

Fig. 2. Bed-isolation system at North-Eastern Hospital, London, showing bed and equipment. Note the overalls for the use of the nurse. (Photograph lent by Dr. Frederic Thompson, superintendent.)

tients. In each ward there is an individual isolation division of twelve beds and a convalescent division containing an equal number.

The individual isolation section consists of twelve separate rooms, or boxes, which have a door leading to the ward corridor and another opening upon a narrow outside balcony. The corridor walls are glazed, as is also the partition between every other room. Each room is provided with a sink for washing the hands with warm water. A portable bathtub can be wheeled into the room, filled from the sink, and emptied at a floor drain, in each room. The walls of the room are washable, partly of glass and partly of some kind of vitrified material.

The convalescent *salle*, or hall, at the end of the building, contains twelve beds, and is subdivided by partial partitions into four beds with three beds each. Each section is provided with the same facilities for washing the hands and bathing as the boxes. The ward as a whole is provided with the usual hospital utility rooms.

The hospital admits all kinds of infectious diseases, including smallpox. Dr. Martin, the superintendent, says, however, that if cases are very numerous, it would be better to devote a whole ward to the disease. All patients are vaccinated on admission.

Among 2,745 patients admitted, there were 524 cases of smallpox, 136 of measles, 443 of diphtheria, 7 of hydrophobia, 163 of erysipelas, and 192 mothers with sick children or children with sick mothers; among these were 8 cross-infections, 5 of smallpox, 2 of erysipelas, and 1 of diphtheria.

In the five years 1900-1905, 5,000 patients were treated in this hospital with a cross-infection rate of two per thousand.

It might be well at this point to describe briefly the various methods of isolating patients. The "barrier system" refers to isolation in an open ward by putting a screen about the bed, marking it by a tape stretched between two upright posts at the foot, or by hanging on the bed an identifying card. The bed is placed some 9 to 12 feet from the next patient. It is customary to barrier only a very few at one time in such a ward, which is usually occupied by convalescents or those not suffering from infectious diseases.

The "bed isolation" system is much the same except that the open ward as a whole is used for isolating various kinds of infectious diseases instead of using separate rooms.

The "room" or "box" system consists of separate rooms with complete partitions.

The "cubicle" system refers to isolation in rooms with low partitions between them. In both the box and the cubicle systems the walls may be solid, or glazed to provide for better observation of the patients. These boxes or cubicles usually open upon a central corridor, two rows arranged on either side, or they may communicate with a corridor formed by one row of these rooms and the outside wall of the building.

The "isolation block" is still another method. The rooms in such a block communicate with each other by an open-air balcony only. The interior walls may be glazed for observation purposes, but there is no interior communication.

Whatever the method of isolation, surgical cleanliness is rigidly carried out. Each room is provided with set bowls, the water delivered by forearm or foot levers, or with an ordinary wash-basin. The latter is to be condemned because it is impossible to keep the basins emptied after each washing. Each unit is provided with furniture and nursing utensils, and whatever passes from one unit to another must be properly sterilized. The nurse and doctor wear gowns. The frequence with which they are put on depends upon the individual hospital.

The first attempt at aseptic nursing in Eng-

land was made at the Monsall Hospital, Manchester, under Dr. A. K. Gordon as superintendent. It was begun in 1902, and the barrier system was used much after the method used by Grancher at

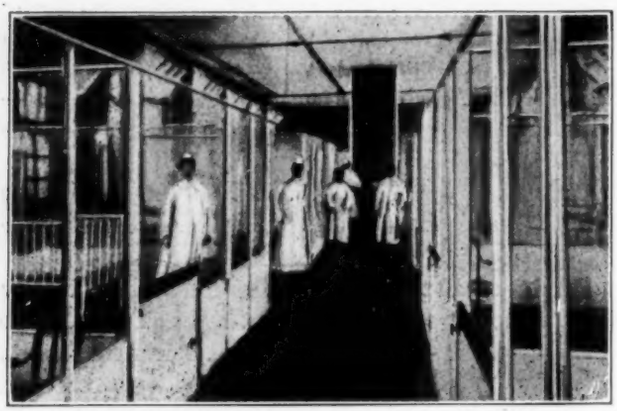

Fig. 3. One of the cubicle blocks (partial system) of the South-Western Hospital, M.A.B., London. (From *The Hospital*, London, August 24, 1912.)

the Hôpital des Enfants Malades in Paris. Any bed in the ward was selected, and about the bed was placed a screen on which were hung sheets wet with some disinfecting solution. These wet sheets were later dispensed with and tape was stretched at the foot of the bed to indicate that it was a barriered case. The nurse wore an overall and rubber gloves when tending the patient. Mild scarlet fever, scarlet fever and diphtheria, scarlet fever and measles, chicken pox, and whooping cough were treated. The cross-infections developing were chicken pox and measles.

Aseptic nursing was introduced into the North-Eastern Hospital, London, in 1904. The wards in this hospital, like other English hospitals, were large wards, and there were few small rooms for isolation purposes. Two wards were reconstructed into boxes (single row) opening upon an inside corridor. The doors to the corridor were dwarf, being 3¼ feet high. These were kept open except when the patient was out of bed.

The two wards combined had a bed capacity of twelve; ten of these were for one patient only and one was for two patients. Each room was provided with a pedal spray basin.

In these rooms were treated scarlet fever, diphtheria, rubella, whooping cough, mumps, erysipelas, and their cross-infections, but not chicken pox or smallpox. Patients with measles or with other diseases and history of measles were admitted to only one of these wards.

During a period of two years previous to August, 1908, there were treated in these boxes 660 patients. There developed the following cross-infections: 6 cases of scarlet fever, 3 cases of rubella, 2 cases of measles, 1 case of whooping cough, and 3 cases of chicken pox, amounting in all to 15 cases or 2.3 per cent of the total number of patients treated.

In 1905 and 1906, the cubicle system was put into operation. There were built into large wards No. 7, 8, and 33, two rows of cubicles, one on either side of a central corridor. The walls between the cubicles were 7 feet high. The doorways were staggered, not opposite. Each cubicle was provided with a pedal spray basin and a single bed. The total capacity was for thirty-four patients.

During the two years prior to August, 1908, 1,290 patients were admitted to these wards. The patients were for the most part doubtful scarlet fever patients; many of them were proved to have scarlet fever, and, when the disease was recognized, they were removed to scarlet-fever wards. There were also a certain number of diphtheria patients suspected of having scarlet fever also. Some were in the incubation period of measles and other infectious disease; when these developed, the patients were sent to other wards. All other infectious diseases were admitted except measles. Only during the first six months of this period was rubella included.

The following cross-infections occurred: 5 cases of scarlet fever, 2 cases of measles, 2 cases of diphtheria, 3 cases of chicken pox, 3 cases of rubella, and 1 case of whooping cough, making a total of 16.

To account for these there were treated many cases of true scarlet fever for the first six months, many cases of rubella, ten with whooping cough, one with chicken pox, and ten with measles.

The cross-infection rate was 1.2 per cent.

In 1912 it was decided that an attempt at "bed

Fig. 4. View showing the full length of the bed-isolation ward at North-Eastern Hospital, London. (Photograph lent by Dr. Frederic Thompson, superintendent.)

isolation" in an open ward be made. This was suggested by the report by Rundle and Burton of the Fazakerly Hospital, Liverpool. The ward selected for this experiment had a capacity of

twelve beds. It was well lighted and ventilated. Each bed had 195 square feet floor space and 15 feet wall space. Washbasins were used instead of the pedal spray. No toys, books, papers, or the like were allowed in the ward. The patient was kept in his bed throughout the hospital residence. When any one was to touch the patient or anything in that unit, he washed his hands in the basin, using soap and a scrub brush in 1:2000 compound solution of cresol, and a gown was put on. After the patient was tended the gown was taken off and the washing repeated. The best nurses were selected for this work, and the day force consisted of five and the night force of two.

No measles or smallpox patients were admitted. The patients were mostly children. Part of the time advantage was taken of immunity in placing the patients in the ward. For instance, a child with chicken pox would be put next to a patient who perhaps had scarlet fever but who gave a history of chicken pox, or had old scars.

During two years, from February 12, 1912, 224 patients were treated. Many had multiple diseases and many did not have transmissible infections.

A summary of the different diseases treated is as follows: 112 cases of scarlet fever, 63 cases of diphtheria, 24 cases of varicella, 47 cases of whooping cough, 11 cases of mumps, 2 cases of measles, 6 cases of rubella, and 67 miscellaneous cases, making a total of 332.

The average stay of each patient was twenty-seven and a half days. Two hundred and sixty-two of the patients were under ten years of age. They were in all stages of the diseases.

There were the following cross-infections: 2

Fig. 5. Box-room ward at North-Eastern Hospital. The doors of these boxes are left open except when the patient is out of bed. (Photograph lent by Dr. Frederic Thompson, superintendent.)

cases of scarlet fever, twenty-two months after the ward was opened; 5 cases of whooping cough; 5 cases of measles, from a single case; and 8 cases of chicken pox, making a total of 20.

The cross-infection rate was 9 per cent. It will be noted that measles and chicken pox constituted thirteen of the twenty cross-infections. For the data about the North-Eastern Hospital, I am

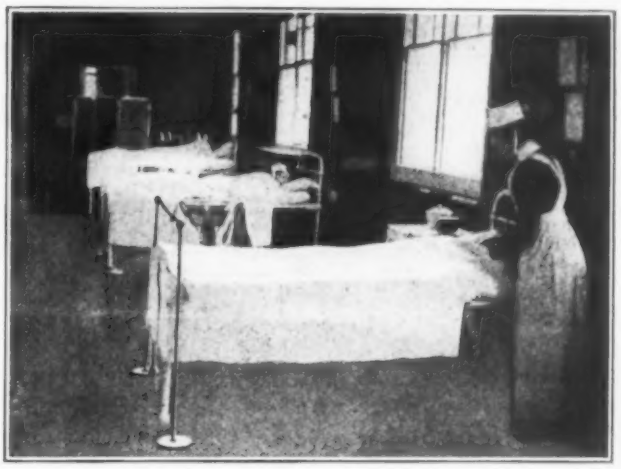

Fig. 6. The cord barrier system as used at Plaistow Hospital, London. The cords are seen stretched between standards at the foot of the beds. The disinfecting basins and nurses' overalls are on tripods between the beds. (From *Nursing Times*, June 6, 1908.)

indebted to Dr. Frederic Thompson, its superintendent, and to Dr. Clifford Price, who assisted him. From his experience Dr. Thompson concluded that measles is air-borne for a short distance during the first days of the disease and chicken pox up to the third day.

For the following information, I am indebted to Dr. J. Biernacki, superintendent of the Plaistow Hospital, London.

At this hospital, the barrier system has been used quite extensively, the box, or room system and the cellular block system to some degree. Aseptic nursing has been rigidly carried out with all three systems.

The barrier system was used in the scarlet-fever and diphtheria wards. No more than two or three patients were barriered at the same time. The bed was marked by a cord stretched between two upright standards set at the foot of the bed.

During a period of eighteen months previous to 1911, the following cases had been barriered in the scarlet fever ward: 36 cases of scarlet fever and diphtheria; 33 septic cases of scarlet fever; 16 cases of scarlet fever and whooping cough, 6 cases of scarlet fever and vaginitis, 7 cases of scarlet fever and ringworm, 2 cases of scarlet fever and mumps, and 62 cases of scarlet fever, doubtful or combined with other diseases and contacts, making a total of 162. There were two cross-infections with scarlet fever.

Barriered in the diphtheria wards there were 36 tracheotomy cases, 23 cases of diphtheria and questionable scarlet fever, 11 cases under observation for scarlet fever, 4 cases of scarlet fever and

whooping cough, 2 cases of diphtheria and chicken pox, 2 cases of diphtheria and scarlet fever, and 30 other cases of various combinations and for observation, making a total of 126. There was one cross-infection with scarlet fever.

Measles and chicken pox are now barriered by Dr. Biernacki.

In isolation rooms, or boxes, fifty-five cases including scarlet fever, diphtheria, measles, tonsillitis, chicken pox, whooping cough, and miscellaneous cases were treated during an eighteen months' period, and no cross-infection developed.

The cellular block at the Plaistow Hospital consists of rooms, the door to each opening upon a veranda. The interior walls are of glass. The washbowls are on the veranda. During a period of eighteen months the following diseases were treated in this block: 47 cases of scarlet fever; 24 cases of scarlet fever and diphtheria; 19 cases of diphtheria; 8 cases of chicken pox; 9 cases of measles and laryngeal diphtheria; 21 miscellaneous and mixed cases, and 8 cases of measles, making a total of 136 cases.

There were no cross-infections. In fact, during a three-year period, during which other diseases, including typhus fever, but not smallpox, were admitted, no cross-infections developed.

At the Eastern Hospital, London, a twenty-bed ward was divided into ten rooms or boxes on each side of a central corridor. The partitions are glazed from three feet above the floor. Each room is provided with a pedal spray. All utensils are sterilized in steam sterilizers.

From September 6, 1910, to March 25, 1911, 142 patients had passed through this ward whose diseases were classified as follows: 16 cases of scarlet fever; 21 cases of scarlet fever and other infectious diseases; 5 cases of diphtheria; 15 cases of diphtheria and other infectious diseases; 25 cases of measles; 3 cases of chicken pox; 13 cases of rubella; 12 cases of miscellaneous infectious diseases; and 32 cases of non-infectious diseases, making a total of 142. There was no selection of cases for admission. One cross-infection, chicken pox, developed, an incidence of .7 per cent.

In 1908, Dr. Foord Caiger, superintendent of the South-Western Hospital, London, reported the results of an experience of eighteen months, beginning January 1, 1907, with the cubicle ward of thirty-two beds and aseptic nursing. The cubicle walls are 7 feet high and of glass above a height of from 2 to 3 feet above the floor. They are arranged in a double row on either side of a 5-foot corridor, into which a dwarf door 3 feet and 5 inches high swings from each. During the period of eighteen months, 704 patients were treated in these cubicles.

The diseases were as follows: 289 cases of scarlet fever convalescence; 163 cases of scarlet fever; 82 cases of rubella; 22 cases of measles; 31 cases of diphtheria; 17 cases of whooping cough; and 100 cases of mixed, contact, and miscellaneous disease, making a total of 704.

There were sixteen cross-infections, an incidence of 2.3 per cent. The cross-infections consisted of 6 cases of scarlet fever, 6 cases of chicken pox, 2 cases of rubella, and 2 cases of measles, making a total of 16 admitted to these wards.

During the year 1911, among 269 patients admitted to this ward the cross-infection incidence was 1.8 per cent, whereas in the hospital as a whole it was 7.6 per cent.

After his early experience, Dr. Caiger refused to put in the cubicles measles and chicken pox in the acute stage. Smallpox was also excluded.

Dr. C. Rundle, superintendent of the Fazakerly Hospital, Liverpool, has introduced a somewhat different and original system of bed isolation.

For this purpose, two large wards in one pavilion were used. They were separated only by a short hall. In each are twelve beds, each patient having 2,100 cubic feet of air space. Washbowls are placed on a table in the middle of the ward; additional bowls are placed beside the bed when isolation is prolonged or when patients require much attention. Each isolated bed has its own utensils, except for those that are in common use, and these are sterilized. The ward has been used for lesser transmissible diseases, for convalescents from various diseases, and for acute, highly infectious diseases. For such diseases as variola, pertussis, scarlet fever, and diphtheria, bed isolation and asepsis is rigid. Patients are kept in bed until they are quite convalescent. For all others, only ordinary cleanliness is employed, except in the case of scarlet fever and diphtheria convalescents with nasal and aural discharges. These are allowed to be about and mingle freely.

During 1910 and 1911 and up to March, 1912, 741 patients were treated in these wards.

These patients suffered from the following diseases: 76 cases of scarlet fever; 42 cases of diphtheria; 42 cases of measles; 13 cases of rubella; 41 cases of varicella; 13 cases of pertussis; 13 cases of typhoid; 42 cases of puerperal fever; 233 cases of erysipelas; 58 cases of tonsillitis; 33 cases of gastroenteritis; 18 cases of bronchitis and bronchopneumonia; 18 cases of skin diseases; 28 cases with no disease; and 104 cases of other and combined diseases, making a total of 774. Among this number were only two cross-infections, both scarlet fever, an incidence of 0.2 per cent.

These remarkable results show the courage and executive ability of Dr. Rundle and his assistants.

## HOSPITAL ACCOUNTING

# Comparative Balance Sheets—Comparative Statistics of Patients Treated—Appendix—Materials and Supplies—Fixed Assets—Corporation Expenses

By CHARLES A. PORTER and HERBERT K. CARTER of the Staff of The Modern Hospital

[Continued from April issue, p. 255]

## SCHEDULE 4

COMPARATIVE BALANCE SHEET FOR YEARS ENDED DECEMBER 31, 19.... AND 19.....

*Capital Assets*

| | 19..... | 19..... | Increase | Decrease |
|---|---|---|---|---|
| Hospital properties and equipment— | | | | |
| Land and buildings | $..... .... | $..... .... | $..... .... | $..... .... |
| Furniture and fixtures | ..... .... | ..... .... | ..... .... | ..... .... |
| Equipment | ..... .... | ..... .... | ..... .... | ..... .... |
| Apparatus and instruments | ..... .... | ..... .... | ..... .... | ..... .... |
| Ambulances | ..... .... | ..... .... | ..... .... | ..... .... |
| Miscellaneous | ..... .... | ..... .... | ..... .... | ..... .... |
| Investments— | | | | |
| Mortgages receivable | ..... .... | ..... .... | ..... .... | ..... .... |
| Bonds | ..... .... | ..... .... | ..... .... | ..... .... |
| Stocks | ..... .... | ..... .... | ..... .... | ..... .... |
| Real property | ..... .... | ..... .... | ..... .... | ..... .... |
| Miscellaneous | ..... .... | ..... .... | ..... .... | ..... .... |
| Reserve for Depreciation | ..... .... | ..... .... | ..... .... | ..... .... |
| Total capital assets | $..... .... | $..... .... | $..... .... | $..... .... |

*Current Assets*

| | | | | |
|---|---|---|---|---|
| Bills receivable | $..... .... | $..... .... | $..... .... | $..... .... |
| Treasurer's accounts receivable | ..... .... | ..... .... | ..... .... | ..... .... |
| Superintendent's accounts receivable | ..... .... | ..... .... | ..... .... | ..... .... |
| Material on hand | ..... .... | ..... .... | ..... .... | ..... .... |
| Supplies | ..... .... | ..... .... | ..... .... | ..... .... |
| Cash, Superintendent | ..... .... | ..... .... | ..... .... | ..... .... |
| Cash, Treasurer | ..... .... | ..... .... | ..... .... | ..... .... |
| Prepaid insurance | ..... .... | ..... .... | ..... .... | ..... .... |
| Prepaid taxes | ..... .... | ..... .... | ..... .... | ..... .... |
| Prepaid interest | ..... .... | ..... .... | ..... .... | ..... .... |
| Prepaid expenses | ..... .... | ..... .... | ..... .... | ..... .... |
| Total current assets | $..... .... | $..... .... | $..... .... | $..... .... |
| Grand total assets | $..... .... | $..... .... | $..... .... | $..... .... |
| Deficit | $..... .... | $..... .... | $..... .... | $..... .... |
| Total | $..... .... | $..... .... | $..... .... | $..... .... |

## SCHEDULE 4

COMPARATIVE BALANCE SHEET FOR YEAR ENDED DECEMBER 31, 19...., AND 19.....

*Capital Liabilities*

| | 19..... | 19..... | Increase | Decrease |
|---|---|---|---|---|
| Capital account | $..... .... | $..... .... | $..... .... | $..... .... |
| General endowment fund | ..... .... | ..... .... | ..... .... | ..... .... |
| Endowed Bed Fund | ..... .... | ..... .... | ..... .... | ..... .... |
| Partly Endowed Bed Fund | ..... .... | ..... .... | ..... .... | ..... .... |
| Other fund reserves (list each) | ..... .... | ..... .... | ..... .... | ..... .... |
| Bonds outstanding on hospital property | ..... .... | ..... .... | ..... .... | ..... .... |
| Mortgages payable | ..... .... | ..... .... | ..... .... | ..... .... |
| Total capital liabilities | $..... .... | $..... .... | $..... .... | $..... .... |

*Current Liabilities*

| | | | | |
|---|---|---|---|---|
| Loans and notes payable | $..... .... | $..... .... | $..... .... | $..... .... |
| Advance payments by patients | ..... .... | ..... .... | ..... .... | ..... .... |
| Overpayments by patients | ..... .... | ..... .... | ..... .... | ..... .... |
| Treasurer's accounts payable | ..... .... | ..... .... | ..... .... | ..... .... |
| Superintendent's accounts payable | ..... .... | ..... .... | ..... .... | ..... .... |
| Total current liabilities | $..... .... | $..... .... | $..... .... | $..... .... |
| Grand total liabilities | $..... .... | $..... .... | $..... .... | $..... .... |
| Surplus | ..... .... | ..... .... | ..... .... | ..... .... |
| Total | $..... .... | $..... .... | $..... .... | $..... .... |

**If grand total of liabilities is greater than grand total assets, there is a deficit; if vice versa, a surplus. The more years this statement covers, the more interesting it is.**

## SCHEDULE 5

### STATEMENT OF INCREASE OR DECREASE OF CAPITAL RESERVE FUNDS

| Description of funds | Amount first of year | Amount received | Expended | Amount end of year | Increase | Decrease | Proposed a mount of fund |
|---|---|---|---|---|---|---|---|
| General endowment | $..... ... | $..... ... | $..... ... | $..... ... | $..... ... | $..... ... | $..... ... |
| Endowed Bed Fund | ..... ... | ..... ... | ..... ... | ..... ... | ..... ... | ..... ... | ..... ... |
| Partly Endowed Bed Fund | ..... ... | ..... ... | ..... ... | ..... ... | ..... ... | ..... ... | ..... ... |
| Reserve for depreciation | ..... ... | ..... ... | ..... ... | ..... ... | ..... ... | ..... ... | ..... ... |
| Other reserve funds (list) | ..... ... | ..... ... | ..... ... | ..... ... | ..... ... | ..... ... | ..... ... |
| Total reserve | $..... ... | $..... ... | $..... ... | $..... ... | $..... ... | $..... ... | $..... ... |

## SCHEDULE 6

### SUMMARY OF INCOME AND EXPENDITURES

*Expenses*

| | This year | Last year |
|---|---|---|
| Administration | $..... .... | $..... .... |
| Profess onal care of patients | ..... .... | ..... .... |
| Department expenses | ..... .... | ..... .... |
| House and property expenses | ..... .... | ..... .... |
| Total operating expenses | $..... .... | $..... .... |
| Corporation expenses | ..... .... | ..... .... |
| Out patients and social service | ..... .... | ..... .... |
| Grand total | $..... .... | $..... .... |

*Revenue*

| | | |
|---|---|---|
| Patients' payments | $..... .... | $..... .... |
| City patients | ..... .... | ..... .... |
| Interest, dividends, and rentals | ..... .... | ..... .. |
| Miscellaneous | ..... .... | ..... .. |
| From operation and investments | ..... .... | ..... .... |
| Needed from voluntary sources | ..... .... | ..... .... |

## SCHEDULE 7

### COMPARATIVE STATISTICS OF PATIENTS TREATED

*Wards and Private Rooms*

| | Present year | Past year | Increase Decrease | Percent |
|---|---|---|---|---|
| Census January 1— | | | | |
| Medical wards, male | $..... .. | $..... .. | $..... .. | $..... .. |
| female | ..... .. | ..... .. | ..... .. | ..... .. |
| Surgical wards, male | ..... .. | ..... .. | ..... .. | ..... .. |
| female | ..... .. | ..... .. | ..... .. | ..... .. |
| Private rooms, male | ..... .. | ..... .. | ..... .. | ..... .. |
| female | ..... .. | ..... .. | ..... .. | ..... .. |
| Total | $..... .. | $..... .. | $..... .. | $..... .. |

| | | | | | |
|---|---|---|---|---|---|
| Admitted during year— | | | | | |
| Medical wards, | male | $..... .. | $..... .. | $..... .. | $..... .. |
| | female | ..... .. | ..... .. | ..... .. | ..... .. |
| Surgical wards, | male | ..... .. | ..... .. | ..... .. | ..... .. |
| | female | ..... .. | ..... .. | ..... .. | ..... .. |
| Private rooms, | male | ..... .. | ..... .. | ..... .. | ..... .. |
| | female | ..... .. | ..... .. | ..... .. | ..... .. |
| Total | | $..... .. | $..... .. | $..... .. | $..... .. |
| Discharged during year— | | | | | |
| Cured | | $..... .. | $..... .. | $..... .. | $..... .. |
| Improved | | ..... .. | ..... .. | ..... .. | ..... .. |
| Unimproved | | ..... .. | ..... .. | ..... .. | ..... .. |
| Transfers to other institutions | | ..... .. | ..... .. | ..... .. | ..... .. |
| Died | | ..... .. | ..... .. | ..... .. | ..... .. |
| Total | | $..... .. | $..... .. | $..... .. | $..... .. |

*Emergency Ward*

| | | Present year | Past year | Increase Decrease | Percent |
|---|---|---|---|---|---|
| Census January 1, | male | $..... .. | $..... .. | $..... .. | $..... .. |
| | female | ..... .. | ..... .. | ..... .. | ..... .. |
| Admittances, | male | ..... .. | ..... .. | ..... .. | ..... .. |
| | female | ..... .. | ..... .. | ..... .. | ..... .. |
| Total treated, | male | ..... .. | ..... .. | ..... .. | ..... .. |
| | female | ..... .. | ..... .. | ..... .. | ..... .. |
| Discharged, | male | ..... .. | ..... .. | ..... .. | ..... .. |
| | female | ..... .. | ..... .. | ..... .. | ..... .. |
| Total | | $..... .. | $..... .. | $..... .. | $..... .. |

| | Present year | Past year | Increase Decrease | Percent | Average per day |
|---|---|---|---|---|---|
| Census December 31, male | $..... .. | $..... .. | $..... .. | $..... .. | $..... .. |
| female | ..... .. | ..... .. | ..... .. | ..... .. | ..... .. |
| Visits to ward during year | ..... .. | ..... .. | ..... .. | ..... .. | ..... .. |
| Average visits per patient | ..... .. | ..... .. | ..... .. | ..... .. | ..... .. |
| Average daily cost per emergency ward patients | ..... .. | ..... .. | ..... .. | ..... .. | ..... .. |
| Total | $..... .. | $..... .. | $..... .. | $..... .. | $..... .. |

*Dispensary*

| | | | | | | |
|---|---|---|---|---|---|---|
| Census January 1, | male | $..... .. | $..... .. | $..... .. | $..... .. | $..... .. |
| | female | ..... .. | ..... .. | ..... .. | ..... .. | ..... .. |
| Admittances, | male | ..... .. | ..... .. | ..... .. | ..... .. | ..... .. |
| | female | ..... .. | ..... .. | ..... .. | ..... .. | ..... .. |
| Total treated, | male | $..... .. | $..... .. | $..... .. | $..... .. | $..... .. |
| | female | ..... .. | ..... .. | ..... .. | ..... .. | ..... .. |
| Discharged | | ..... .. | ..... .. | ..... .. | ..... .. | ..... .. |
| Census December 31 | | ..... .. | ..... .. | ..... .. | ..... .. | ..... .. |
| Total visits during year | | ..... .. | ..... .. | ..... .. | ..... .. | ..... .. |
| Average daily cost per visit | | ..... .. | ..... .. | ..... .. | ..... .. | ..... .. |
| Average visits per patient | | ..... .. | ..... .. | ..... .. | ..... .. | ..... .. |
| Average cost per patient | | ..... .. | ..... .. | ..... .. | ..... .. | ..... .. |

| | | Present year | Past year | Increase Decrease | Percent |
|---|---|---|---|---|---|
| Census December 31— | | | | | |
| Medical wards, | male | $..... .. | $..... .. | $..... .. | $..... .. |
| | female | ..... .. | ..... .. | ..... .. | ..... .. |
| Surgical wards, | male | ..... .. | ..... .. | ..... .. | ..... .. |
| | female | ..... .. | ..... .. | ..... .. | ..... .. |
| Private rooms, | male | ..... .. | ..... .. | ..... .. | ..... .. |
| | female | ..... .. | ..... .. | ..... .. | ..... .. |
| Total | | $..... .. | $..... .. | $..... .. | $..... .. |

| | Present year | Past year | Increase Decrease | Percent | Average per day |
|---|---|---|---|---|---|
| Total patients'—days treatment | $..... .. | $..... .. | $..... .. | $..... .. | $..... .. |
| Free ward | ..... .. | ..... .. | ..... .. | ..... .. | ..... .. |
| Endowed bed | ..... .. | ..... .. | ..... .. | ..... .. | ..... .. |
| Pay ward | ..... .. | ..... .. | ..... .. | ..... .. | ..... .. |
| Private room | ..... .. | ..... .. | ..... .. | ..... .. | ..... .. |
| Total | $..... .. | $..... .. | $..... .. | $..... .. | $..... .. |

Average time per patient in hospital.....

**Census January 1, plus admittances and less discharges, and census December 31, divided into patients days treatment, equals average time per patient per day in hosiptal.**

*Cost*

| | Present year | Past year |
|---|---|---|
| Daily average cost | $..... .... | $..... .... |
| Ward patients | ..... .... | ..... .... |
| Private room patients | ..... .... | ..... .... |

*Ambulance*

| | Present year | Past year | Increase Decrease | Percent | Average per day |
|---|---|---|---|---|---|
| Ambulance calls during year | $..... .. | $..... .. | $..... .. | $..... .. | $..... .. |
| Average calls per day | ..... .. | ..... .. | ..... .. | ..... .. | ..... .. |
| Average cost per call | ..... .. | ..... .. | ..... .. | ..... .. | ..... .. |
| Patients treated in emergency ward by ambulance surgeon and transferred | ..... .. | ..... .. | ..... .. | ..... .. | ..... .. |
| Patients treated at place of call and left there or taken to tother institutions | ..... .. | ..... .. | ..... .. | ..... .. | ..... .. |
| Total | $..... .. | $..... .. | $..... .. | $..... .. | $..... .. |

*X-Ray*

| | | | | |
|---|---|---|---|---|
| Examinations during year | $..... .. | $..... .. | $..... .. | $..... .. |
| Average per day | ..... .. | ..... .. | ..... .. | ..... .. |
| Average cost per examination | ..... .. | ..... .. | ..... .. | ..... .. |
| Total | $..... .. | $..... .. | $..... .. | $..... .. |

*Social Service*

| | | | | |
|---|---|---|---|---|
| Census January 1 | $..... .. | $..... .. | $..... .. | $..... .. |
| New patients | ..... .. | ..... .. | ..... .. | ..... .. |
| Discharges | ..... .. | ..... .. | ..... .. | ..... .. |
| Census December 31 | ..... .. | ..... .. | ..... .. | ..... .. |
| Total number of visits | ..... .. | ..... .. | ..... .. | ..... .. |
| Average per day | ..... .. | ..... .. | ..... .. | ..... .. |
| Average cost per visit | ..... .. | ..... .. | ..... .. | ..... .. |
| Average cost per patient | ..... .. | ..... .. | ..... .. | ..... .. |
| Total | $..... .. | $..... .. | $..... .. | $..... .. |

*Summary*

| | | | | |
|---|---|---|---|---|
| Total treated in all departments | $..... .. | $..... .. | $..... .. | $..... .. |
| Average per day in all departments | ..... .. | ..... .. | ..... .. | ..... .. |
| Average number of employees boarded | ..... .. | ..... .. | ..... .. | ..... .. |
| Average daily cost of provisions for all people fed | ..... .. | ..... .. | ..... .. | ..... .. |
| Total | $..... .. | $..... .. | $..... .. | $..... .. |

## APPENDIX

### MATERIALS AND SUPPLIES

It is just as necessary to keep a proper record of those things for which money has been spent as it is to account for the money itself. Therefore the storage and insurance of materials and supplies, and the proper records showing their receipt and delivery, are as important as the bookkeeping system used in the executive offices.

In most of the hospitals recently built the storerooms have been designed with a view of facilitat-

ing the receipt and insurance of supplies, as well as to protect the goods against vermin, moisture, and other destructive forces. In older hospitals, where no special care has been taken to build a suitable storeroom, the executives should analyze their needs with regard to the storage of goods, and as far as possible arrange the racks, bins, cupboards, shelves, etc., in a manner that will permit of ready access of any supplies needed, as well as to permit the placing of new goods received without unnecessary handling.

The larger hospitals, using large quantities of materials and supplies, are more likely to appreciate the importance of careful storage, and the proper kind of records controlling their receipt and issuance, than are the smaller institutions whose supplies are purchased as needed.

### DELIVERY OF STORES

Stores should be delivered only on requisiton. In some hospitals a messenger is employed to deliver stores to the departments ordering them. In other cases stores are delivered direct to the person presenting the requisition. In order to avoid confusion, each institution should adopt some method of delivery and make it standard. The department head receiving goods should indicate their receipt on the requisition.

### STEWARD'S DEPARTMENT

One of the most important departments of a hospital is that under the supervision of the steward. In this department the operating efficiency rests almost solely on the person in charge.

Wherever it is practicable to do so, standards of consumption should be set. Under the direction of a capable executive of this department meals will be not only promptly and satisfactorily served, but savings inaugurated which will insure minimum operating costs.

### SUPERINTENDENT'S CASH

At the end of each business day the cashier should deposit the receipts of the previous day. Where the Superintendent acts as the Cashier, the deposits should be made to the Treasurer's account. The funds required by the Superintendent are issued by the Treasurer.

In order to save time in the large institutions, the Cashier should receive all money and the chief clerk make the deposits. This gives a good internal check.

Checks for operating expenses, refunds to patients, etc., are made out by the chief clerk and then submitted for the approval and signature of the Superintendent.

### AUDITS

The custom of having an independent yearly audit made by a public accountant has become so well established as to make it unnecessary to urge hospital executives to adopt this measure as a regular custom.

It is only by this means that the administrators can get a proper interpretation of legal and other documents, a full knowledge of the proper classification of securities, and be sure that the hospital is being conducted on sound business principles.

A properly prepared auditing report furnishes a sound basis from which to plan the future conduct of the hospital.

### APPRECIATION

As a general rule, it is not good practice to appreciate a capital account.

Land should appear on the Balance Sheet at cost. Although it may enhance in value, increased taxes usually follow without any increase in earning power or income. It is, therefore, best to carry land on the books at cost, although it may be clearly shown that values have increased. A distinction should be made between improved and unimproved property, because the latter may be incumbered with taxes and other carrying charges. By making this distinction the executives may determine the amount to be set aside as a reserve to cover these carrying charges.

It is, therefore, obvious that the only way to determine appreciation is by actual sale of the property.

### DEPRECIATION

Buildings should appear on the Balance Sheet at cost, and a sufficient depreciation reserve set aside each year to cover wear and tear and obsolescence. This percentage may vary from 6 percent on wooden buildings down to 1½ percent on modern fireproof brick and stone and concrete structures.

Machinery and equipment may also appear on the Balance Sheet at cost, provided a sufficient depreciation reserve fund be made to cover wear, tear, and obsolescence. The percentage usually set aside for this purpose varies from 10 to 20 percent, and replacements are charged against this reserve fund.

Boilers have to be replaced, engines wear out or become obsolete, and other machinery wears out and is replaced.

Apparatus and instruments should have a proper reserve fund.

The money in these reserve funds does not have to be invested in securities, but may be used to carry on the business of the institution.

Small tools should be revalued at inventory periods for Balance Sheet purposes and to disclose loss or theft.

Furniture and fixtures is an asset with but little residual value, and the larger proportion should be charged off as expense at cost.

Houses become less valuable through age, so that they should be revalued at each inventory, and the loss or gain charged to profit and loss.

Ambulances, etc., depreciate rapidly, but so many replacements may be made that only a charge for accrued wear and tear should be applied.

## FIXED ASSETS

### SINKING FUNDS

A reserve fund always represents an asset. In many mortgages secured by the hospital land and buildings it is provided that a certain amount shall be set aside each year to clear the debt at maturity. These reserves properly appear on the Balance Sheet as assets. It should be clearly shown what investments are held to cover these reserves and what disposition has been made of uninvested cash. Such reserves are commonly called "sinking funds."

When bonds mature serially, they should be shown as a reduction from the total outstanding bonded debt—not carried as an asset. Proper safeguards should be taken so that matured bonds cannot be misused.

### RESERVE FUNDS

Funds set aside on account of depreciation are called depreciation reserve funds. There are also reserves for bad debts, etc. These reserves are assets, and may appear on the balance sheet as such or as reductions of capital.

It is not the usual custom to invest reserves of this kind in specific assets unless it is intended to use them and the interest accrued thereon for the building of another institution, etc.

The book value of capital asset plus the depreciation reserve should total the capital account.

Other fixed assets are investments, such as bonds not purchased to be sold at a profit, etc.

Depreciation reserves should be large enough to have the cost of repairs charged against them and yet have them extinguish the account in a certain number of years.

Insurance companies have tables showing the rates to be set aside each year for depreciation.

By charging repairs against depreciation, uniformity of costs is secured, so that comparisons will mean something from year to year.

All money received whose income is to be used for specified purposes or general expenses should be invested in some safe bonds, or stocks, or real property.

Bonds are seldom purchased at par, and, where bought or donated, a readjustment to make their market value equal the par value is necessary.

The scientific method for caring for this readjustment is called amortization, and necessitates a debit or a credit to the interest account at each periodical adjustment of their book value (usually period is one year) to show the effective rate of interest on the market value of the bonds at the time they were acquired.

It is interesting to show the market value of bonds at the date of the Balance Sheet by means of a foot note.

### CHARTS

It is good policy to get up charts showing revenue and expenses by months, beds in use, and other valuable information. Some may contend that such charts are interesting, but cost too much. They do not realize the cost of not getting them up. In seven weeks the bonding companies listed shortages of a half million dollars.

### VACATIONS

The Board of Managers of a hospital should require that all office help, the steward, and purchasing agent go on annual vacations. This has the double advantage of checking up employees and departments and instructing clerks in duties other than their own.

### GENERAL INFORMATION

The average expenditures for several hospitals in New York State are approximately as follows:

| | Percent |
|---|---|
| Provisions | 36.5 |
| Salaries and wages | 34.9 |
| Miscellaneous | 10.4 |
| Fuel and light | 6.8 |
| Medical and surgical support | 3.9 |
| Clothing | 3.6 |
| Furniture and fixtures | 1.5 |
| Ordinary repairs | 2.4 |

### SUPERINTENDENT'S ANNUAL REPORT

At the close of the fiscal year it is a good practice to render a written report, elaborating on the statistical and financial statements, commenting on the accomplishments of the year, and drawing particular attention to features of interest to the Board of Managers. This report should be a general discussion of the affairs of the institution, and written in a manner easily comprehended by the average person unfamiliar with medical terms or accounting methods.

### STATEMENT OF COST PER PATIENT PER DAY

*(See Form 27.)*

The cost per patient per day may be obtained from the data given in the Expense Analysis and Census Reports.

The main branches of hospital service are for

Dispensary, Emergency Ward, Private Rooms, and Public Ward Patients. Each branch of this service is charged with the salaries and wages of all persons directly employed in them and all supplies chargeable to them. Operating expenses are apportioned according to the best judgment of the accountant.

The charges from the various departments should be apportioned to the wards, private rooms, dispensary, emergency ward, and social service according to the service rendered in their interests.

The following example will be of assistance in obtaining the percentages chargeable to each branch of the service.

Total cost of ambulance service.....$400.00
Total number of calls.....100
For emergency ward..... 50
Wards ..... 30
Private rooms..... 20
Distribution—Unit cost per call.....$4.00
Emergency ward.....$200.00
Wards ..... 120.00
Private rooms..... 80.00
Total .....$400.00

It will be seen by this example that, as no calls were made in the interests of the social service or dispensary departments, no charge is made against them.

The total cost of operating each branch of the service, divided by the number of patient days' treatment, visits, or calls, gives the unit cost.

## CORPORATION EXPENSES

### PER CAPITA COST—DISTRIBUTION OF CORPORATION EXPENSES PER CAPITA PER DIEM

There is a sound reason for charging corporation expense into per capita costs. The corporation expense envelops every activity of the hospital. In large hospitals the Treasurer's salary and his office expenses cover a large number of patient days' treatment. Small institutions may have no Treasurer, the Superintendent caring for all corporation affairs as well as attending to his own duties. In this case the Superintendent's salary and expense cover comparatively few patient days' treatment. Therefore the corporation expense charge will equalize itself in the cost per

THE MODERN HOSPITAL
COST PER PATIENT PER DAY
Year Ended_____ 191_

| | TOTAL | WARD PATIENTS | | COST PER WARD PATIENT PER DAY IN CENTS | PRIVATE ROOM PATIENTS | | COST PER PRIVATE ROOM PATIENT PER DAY IN CENTS | DISPENSARY | | EMERGENCY WARD | | SOCIAL SERVICE | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CORPORATION EXPENSES | | % | | | % | | | % | | % | | % | |
| ADMINISTRATIVE EXPENSES | | % | | | % | | | % | | % | | % | |
| PROFESSIONAL CARE OF PATIENTS | | | | | | | | | | | | | |
| SUPT. NURSES, ASS'TS + INST'S | | % | | | % | | | % | | % | | | |
| NURSES | | ACT. | | | ACT. | | | ✓ | | ✓ | | | |
| ORDERLIES | | ACT. | | | ACT. | | | ✓ | | ✓ | | | |
| WARD EMPLOYEES | | ✓ | | | ✓ | | | | | | | | |
| EQUIPMENT FOR NURSES | | ✓ | | | ✓ | | | ✓ | | ✓ | | ✓ | |
| MEDICAL SUPPLIES | | % | | | % | | | % | | % | | % | |
| DISPENSARY | | | | | | | | ✓ | | | | | |
| EMERGENCY WARD | | | | | | | | | | ✓ | | | |
| SOCIAL SERVICE | | | | | | | | | | | | ✓ | |
| X RAY SERVICE | | % | | | % | | | % | | % | | | |
| AMBULANCE | | % | | | % | | | | | % | | | |
| PATHOLOGICAL LABORATORY | | % | | | % | | | % | | | | | |
| HOUSEKEEPING | | % | | | % | | | % | | % | | | |
| LAUNDRY | | % | | | % | | | % | | % | | % | |
| STEWARDS DEPARTMENT | | % | | | % | | | % | | % | | % | |
| GENERAL HOUSE & PROPERTY | | % | | | % | | | % | | % | | % | |
| TOTAL EXPENSES | ✓ | | ✓ | | | ✓ | | | ✓ | | ✓ | | ✓ |
| TOTAL PATIENT DAYS + VISITS | ✓ | | ✓ | | | ✓ | | | ✓ | | ✓ | | ✓ |
| UNIT COST | | | | ✓ | | | ✓ | | ✓ | | ✓ | | ✓ |
| SPECIAL NURSES | ✓ | % | ✓ | ✓ | % | ✓ | ✓ | | | | | | |
| TOTAL UNIT COST | ✓ | | ✓ | ✓ | | ✓ | ✓ | | | | | | |

Form 27. Cost Per Patient Per Day. Actual size, 12 by 11¼ inches. Check mark (√) signifies figures obtained from original books of entry or directly from the information on this sheet.

capita per diem by reason of the differences in the organizations of small and large institutions. Repairs, taxes, insurance, etc., on property held for investments should be charged as a reduction of income. By following this method all hospitals are on a equal footing in arriving at their per capita per diem cost.

#### DEPRECIATION AND PER CAPITA COST PER DIEM

Some of the smaller hospitals cost but fifteen cents per cubic foot, while the new fireproof buildings cost as high as fifty cents per cubic foot.

Hospitals having a low cost have a high rate of depreciation, and the hospitals that are built at a high cost have a low rate of depreciation. These rates vary from 6 percent down to 1½ percent where the cost of repairs is charged against depreciation and not as a separate item. From this fact one can see that there is a comparable basis to work from if the cost of depreciation is figured in the statement of cost per capita per diem.

For example, take two one-hundred-bed hospitals, one of which costs $50,000.00 and the other a modern up-to-date group of buildings costing $200,000.00.

| | | | |
|---|---|---|---|
| 1½ | percent on | $200,000.00 | equals $3,000.00 |
| 6 | percent on | 50,000.00 | equals 3,000.00 |

This example shows the logic of charging depreciation to cost per capita per diem and that the results are comparable.

Additions should be capitalized. Betterments should be made through a special fund for that particular stated purpose, and not included in the cost of repairs.

Included in betterments are such items as changes made necessary by poor planning in construction. The expenditures for betterments should not be a part of the cost per capita per diem.

## THE GREATER COMMUNITY ASSOCIATION AT CRESTON, IOWA

### A Plan and a Prophecy—Six Counties Organized for Social Betterment—Central Hospital Solves the Rural Health Problem—The Church and Medical Profession Unite

By A. E. KEPFORD, Department of Tuberculosis, Board of State Institutions, Des Moines, Iowa

IT is difficult to put down in cold type a great inspiration. It is like trying to photograph a beautiful face in which one desires to reproduce spiritual qualities. The only thing one can do is to get a delineation of the face in which the deeper meanings of character are not revealed. The same difficulty is faced in any attempt to describe adequately the inception and organization of the Greater Community Association at Creston, Iowa, which is at once a plan and a prophecy and which involves the highest principles of democracy.

Dr. F. E. Sampson, a physician and surgeon of Creston, Iowa, may be called the prophet of this great movement; he has led the way to the promotion of the Greater Community Association by which six counties have organized their social, religious, educational, and economic forces. Through his long experience he had witnessed thousands of men and women who were the victims of social ignorance and neglect coming to the hospital for surgical and other care. This appalling waste of physical resources, much of which could have been prevented, made a dramatic appeal to him. Many of the persons who sought relief were the victims of a system of medical and social procedure in which society had made the fundamental mistake of failing to recognize and remove the causes which produce these unfortunate effects. Attempts at hospitalization are often only perfunctory because of the lack of adequate equipment and the scientific training which is necessary if persons seeking relief are to be cared for properly. In other words, many hospitals are but a step removed from ordinary boarding houses and, through insufficient financial or other support, possess but limited opportunities to become efficient. And then, too, there are those petty and irritating misunderstandings in the community, not only civic but medical, which prevent the highest interest of the patient being always taken into consideration. Superstition and

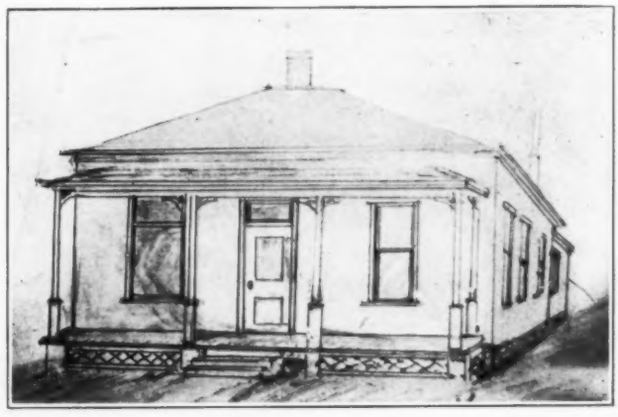

Fig. 1. The rented cottage where Cottage Hospital began October 1, 1894, with a few pieces of white enameled furniture, including five beds and an operating table; working force of one nurse, one cook, one chambermaid; and the notion that these justified calling the place a hospital.

suspicion are the results of ignorance; tragedies arise from the fact that people do not know each other well enough. Generally speaking, people desire to do what is right, but through lack of knowledge, organization, and coordinated effort they can not accomplish the things which are for the best interests of the whole neighborhood. As a rule, people are kind-hearted and deeply interested in community welfare, and there is always an avenue of approach open to those who seek the public good.

Dr. Sampson sensed this. He saw the human possibilities. He has an abiding faith in humanity. He has a very deep reverence for the genius of Christianity. The greater community association of his vision was to be a correlated expression of the social forces of a population of over a hundred thousand souls.

In ancient times the physician was also the priest. Medicine and religion are and always will be coordinate. The healing of the souls of men has a close relation to physical welfare, though this fact has not been recognized by the church. There can be no permanent separation between the spirit and the body in the present order of things. They are coexistent and interdependent. That which makes for physical welfare has always its moral reflex action on the soul. The church is part of the very foundation of the Greater Community Association. It is permanent. Men die, but man lives, and, so long as man exists as man, instinct will group men for spiritual enterprise.

The medical profession is also a fundamental group upon which the Greater Community Association is built. As the nineteenth century was the era of discovery and invention in which equipment was assembled, so the twentieth century is the era of prevention. The achievements of medical science in both civil and military affairs proclaim its right to leadership in public welfare.

Completing the triangular foundation upon which the Greater Community Association rests is the educational group comprising public, private, and parochial schools. Secondary to these primary divisions are the economic and civil groups. The completed scheme, therefore, includes churches, lodges, schools, commercial clubs, women's clubs, city councils, boards of supervisors, medical societies, and any other form of social or economic organization throughout the area.

Prevention is better than cure. In fact, prevention is more easily accomplished than cure. To prevent disease, delinquency, and crime is the social gospel of the twentieth century. What multitudes of human beings may be seen today socially, morally, and economically unfit, loading the ship of state down to the very water line, who

Fig. 2. Cottage Hospital as it appeared on its twenty-fourth anniversary of continuous service. On January 1, 1919, it was transferred to the Greater Community Association, and its name changed to the "Greater Community Hospital." The south wing is to have one more floor, and a solarium will be built upon the roof. The Spaulding Service Building to the rear of the fourth story of the central building does not show in the picture.

through proper social cooperation could have been kept fit and at a high point of civic efficiency! It is not to be wondered at that the Greater Community Association puts its emphasis on child welfare. It makes provision for the adequate physical and mental care of children. It proposes to establish child welfare stations and psychopathic and tuberculosis clinics accessible to every child in the various communities throughout the countryside.

This preventive work will be directed by a social service secretary, who will not only supervise a staff of nurses doing extension work along this line, but who will also help to solve the social problems growing out of such nursing service.

This plan might appear to be the fabric of a beautiful dream but for the fact that a very material foundation has been laid, upon which this entire social structure has been erected. That foundation is a hospital located in the city of Creston, which represents an investment in grounds, buildings, and equipment of over $100,000. It has had a successful existence of twenty-five years. This hospital has been donated as a a free gift to the Greater Community Association and is now a hospital belonging to a population of over a hundred thousand people. It is the people's hospital and stands without incumbrance, a monument to the faith of those who devised and promoted the Greater Community Association.

The hospital belongs to and is controlled by the people. It does not exist for any physician or group of physicians. The motto of the Greater Community Association is "Service." The hospital affords no special privileges to any physician. It does, however, offer multitudes of opportunities to every visioned doctor. The hospital stands as a challenge to the genius, ability, and energy of every medical man in the area. Its hospitable doors are wide open to every physician

who can prove his worthiness to enter. The Greater Community Association says: "Here is the equipment. Here is an x-ray equipment and an expert roentgenologist. Here are the laboratories. Here is a nursing service, second to none. Here is your opportunity. But you must prove worthy to serve your own community in your own neighborhood first, and thus demonstrate whether the threshold of the hospital to the operating room and the rule that from the time a patient enters the hospital a complete record of his case is kept. There can be no dark and sinister compacts here between physician and patient.

The government of the Greater Community Association is vested in a board of governors. (See Fig. 3.) Each participating group, however, has

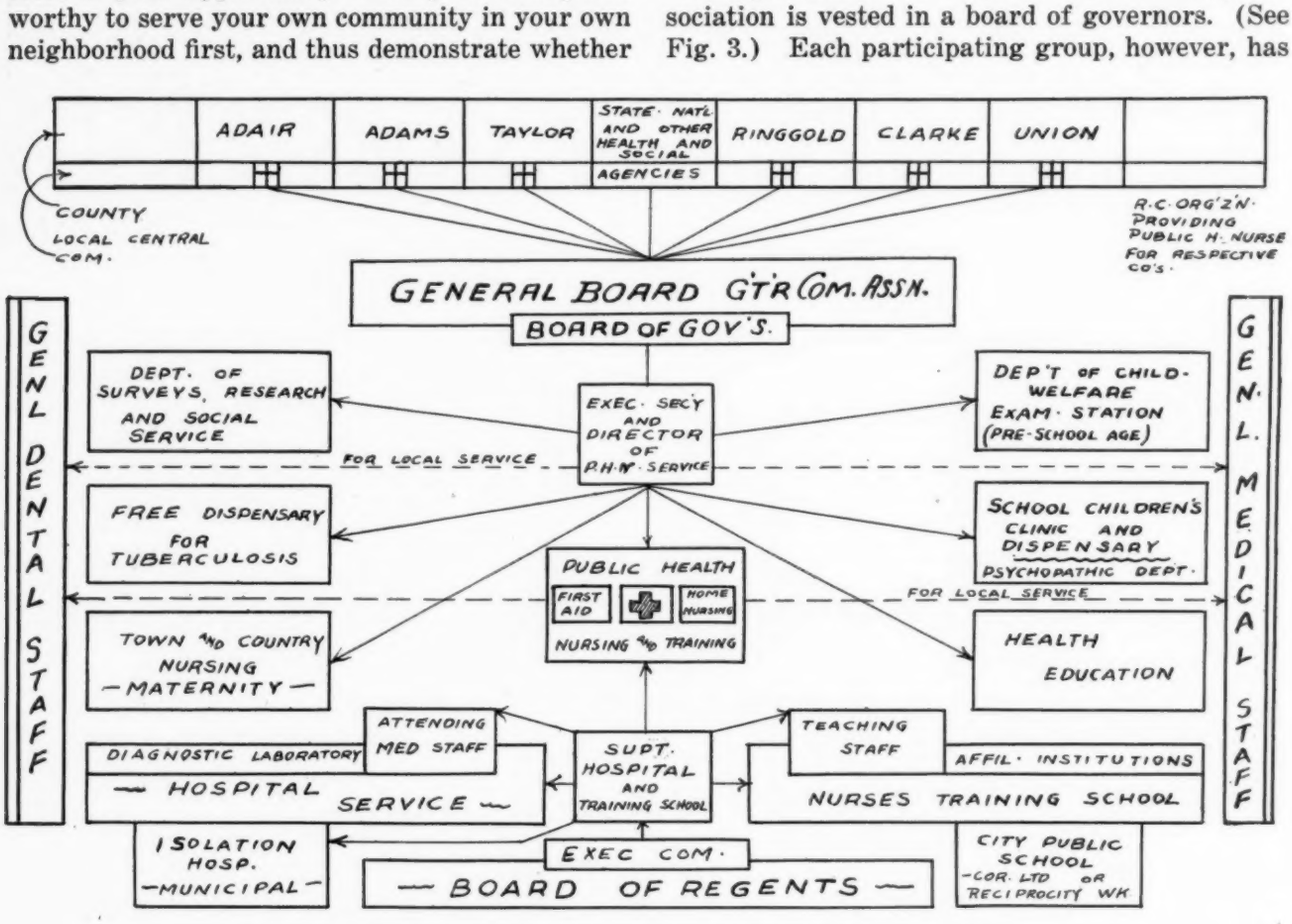


Fig. 3. Diagram showing organization of the government of the Greater Community Association.

you have the vision of service. As a physician in your own neighborhood you must be identified with the great program of socialized medicine, and, only when preventive measures have failed and it is necessary to bring your patient to the hospital, will you find a welcome here."

The physicians of this community, among the most progressive in the country, with few exceptions have studied this plan and are heartily in accord with the general program. They are enthusiastic. Indeed, practically all of the county medical societies in the jurisdiction have taken memberships in the Greater Community Association, and the doctors themselves are discussing its reaches of influence with the people of the countryside and devising ways and means for success. Moreover, many physicians have themselves taken memberships in the association. Among the principles of the hospital management are the precept that it shall be a long way from a committee of three, known as the social service committee. This committee represents the organization in what may be termed a general assembly. Necessarily the general assembly is a large body. This group selects the board of governors. Their jurisdiction is limited to the social side of the service, including the departments of child welfare, dispensaries, public health nursing, etc. The hospital and training school are in the custody and under the direction of the board of regents. This board is the supreme authority, and is elected by members of the association, individual and institutional membership voting. The hospital and training school is under the authority of a superintendent, who is responsible to the board of regents. (See lower line of diagram in Fig. 3.) The department of welfare, social service, etc., is under the authority of the executive secretary (a public health nurse), who is responsible to the board of governors. (The

board of governors is in effect the executive committee of the general assembly.)

The finances of the two departments of service, hospital (or scientific) department and the welfare (social) department, are entirely separate. All charity patients must come through the social service department, and this department is held accountable for the actual cost of hospital care. The hospital contributes the gratuitous service of its medical staff and the advantages of its organized diagnostic and nursing service. This puts it up to the welfare and "uplift" agencies of each community to look after their own people or see to it that their county assumes responsibility for the hospital expense.

active interest in the association continues. Provision is made, however, to cut off any dead members. This money goes into an endowment fund, the purpose of which is to maintain a social service secretary and such office force as may be necessary to carry forward the work of the association.

Recently one of the board of governors brought in six memberships, and, in a number of towns in the various counties throughout the jurisdiction, every church has taken membership.

Each county is organized from within to coordinate its various forces for the promotion of community welfare and especially for the conservation of human life values. (See Fig. 4.) The

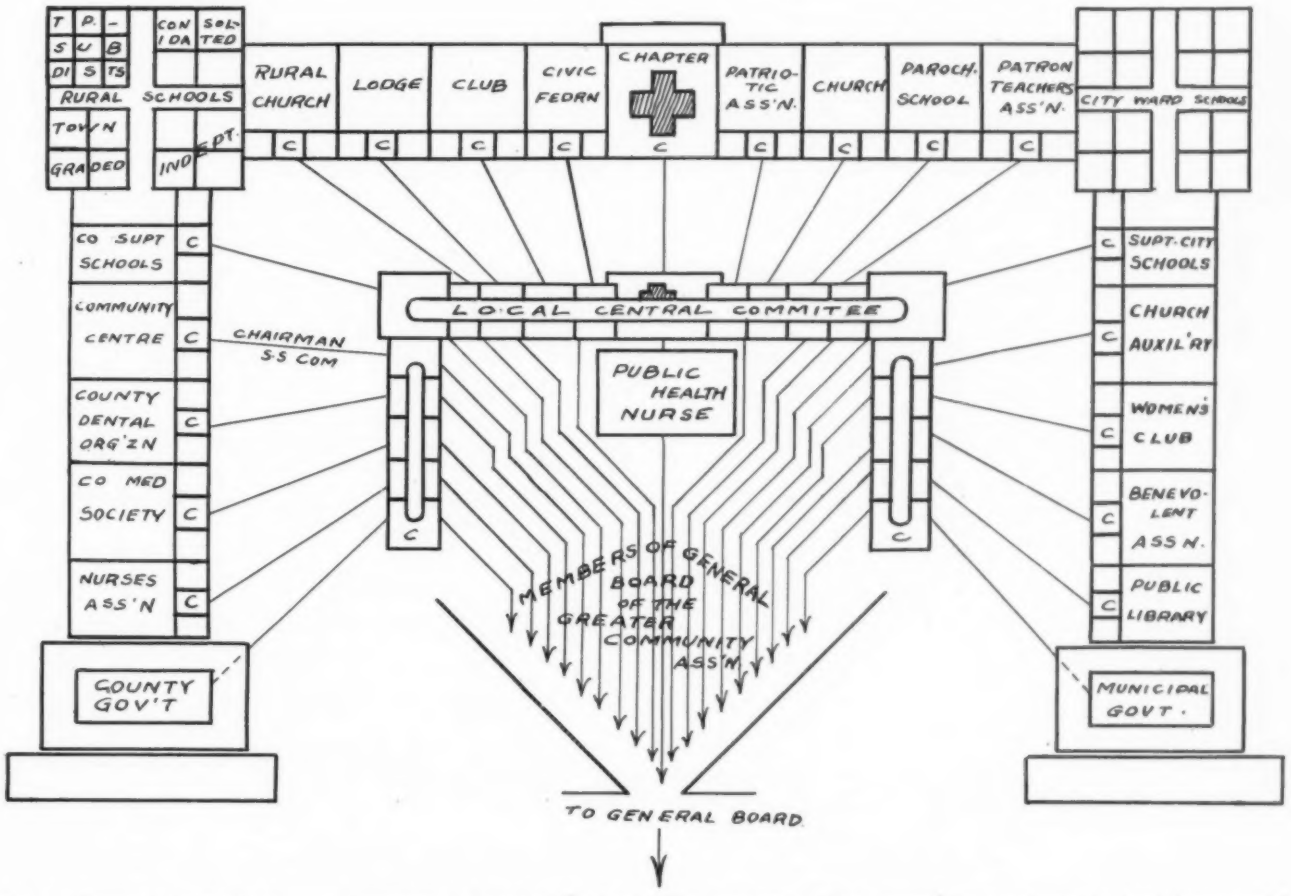


Fig. 4. Diagram showing local central committees of the Greater Community Association. These committees coordinate the local forces—social, fraternal, religious, educational, commercial, agricultural, industrial, professional, and political—for local service. Each trio of squares equals the social service committee of the organization; C stands for the chairman of the committee who represents his organization on the local committee and on the general board of the Greater Community Association.

In either event, the medical staff contributes gratuitous service.

The assembly meets from time to time in discussion of the public welfare and health movements which have to do with general community betterment.

Membership in the association is $25, payable but once. Each church, club, school, lodge, or other organization participating pays $25 and thereafter is perpetually a member, so long as

local central committee includes educational, medical, and local government administrative heads. The public health nursing activities are directed by the public health nurse (provided by the county Red Cross Chapter). The local central committees of the six counties meet quarterly in the assembly room on the fourth floor of the new Central Hospital building. The aggregated central committees constitute the general assembly of general board of the association. Each par-

ticipating organization has its own committee of three members (the social service committee). The chairman of this committee represents his church, lodge, club, etc., on the local central committee, and is also a member of the general assembly where he is authorized to cast the vote for his organization in the election of the regents and the board of governors.

The American Red Cross is participating, and chapters and branches throughout the district have become a part of the association. A scheme has been worked out by county superintendents of some of the counties, at least, for Junior Red Cross membership in each township. There are nine schools in the average rural township. Nine schools combined will hold one twenty-five-dollar membership. Thus the juniors become a part of this great achievement.

The hospital does not receive any of its funds for operation expense from the Greater Community Association. A board of regents direct and manage it. The question here is, How shall the hospital be supported? The answer has been worked out in this way. No patient is received in this hospital free; someone must pay for room and board. An illustration will serve to make this point clear. The social service committee of a church at Bedford, forty miles distant from Creston, applies at the hospital for the admission of a woman who needs a surgical operation and is unable to pay. The secretary will then ask this question: "Has your church sufficient interest in her to pay her room and board?" The answer being in the affirmative, the woman is brought by her physician; the operation is performed either by him or by a surgeon of the hospital staff. The room and board at the hospital are paid by the church, but neither the attending physician nor the member of the hospital staff can make any charge whatever for his services. The maintenance of the hospital is thus assured.

One of the charter principles of the confederation is that no physician, either in private practice or as a member of the hospital staff, can

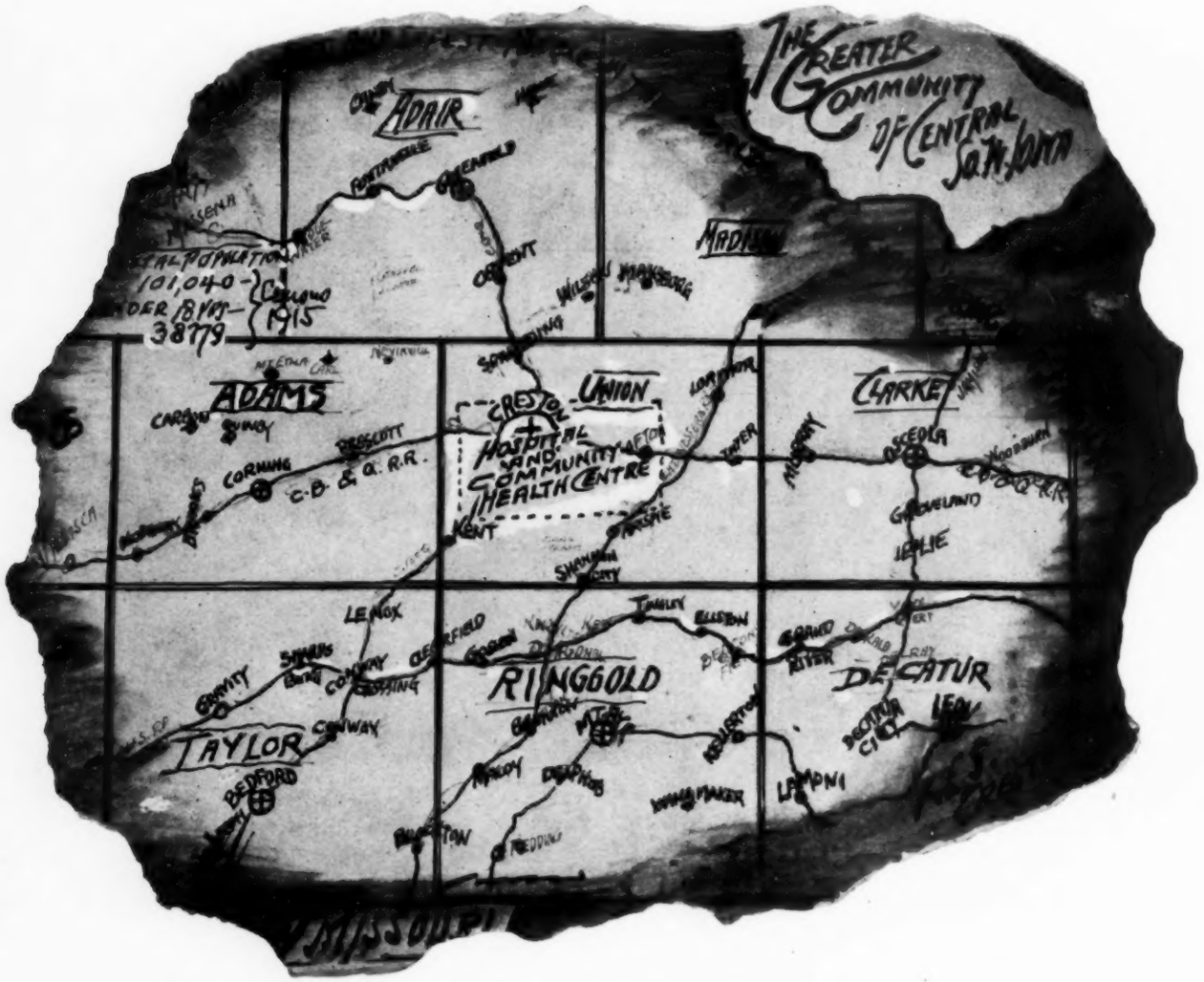


Fig. 5. Map of the six counties served by the Greater Community Association.

charge a fee for any service rendered by him to any patient whose room and board have been paid in whole or in part by any person or group or from public funds. That is, free professional service for charity cases is the contribution made by the physicians practicing in the hospital of the Greater Community Association. On the other hand, when a physician brings a patient to the hospital who is able to pay, the patient pays the regular hospital rate and whatever fee may have been agreed upon between him and his physician. Meanwhile the Greater Community Association has provided a hospital equipment and service as fine as can be had in any city of a hundred thousand.

Here, then, we approach what may be considered a solution to the problems of the rural hospital. We have a hospital which makes no attempt to pattern after the great city institutions, but is organized to meet the needs of a rural neighborhood. The Greater Community Association has been taught to regard the hospital as a repair shop, necessary only where preventive medicine has failed. The standards of this hospital are adapted, therefore, to the demands of a rural population, and the ethics governing the whole plan are expressed in the law: "Thou shalt love thy neighbor as thyself." This hospital has in itself three general functions: social service, which includes preventive medicine, child welfare, and clinics; nurses' training school; and the maintenance of an adequately equipped hospital, which challenges the finest scientific skill.

A great many plans have been suggested for a memorial to the American soldiers who have been killed in action or died of disease during the great war, but the Greater Community Association has established a memorial fund to be used for child welfare. This foundation is to perpetuate the name of a soldier who made the supreme sacrifice whose name otherwise would perish from the earth. The memorial is in the form of a tablet on the wall of the reception corridor of the hospital with the name of the man in whose memory the money is given inscribed upon it. Many liberal citizens are contributing Liberty bonds for this purpose. The idea is a beautiful one. The hope is that eventually an endowment will have been created large enough to support by its income a trained nurse whose entire time will be devoted to the care of the babies and little children of the hospital area.

Recently another feature has been added in the shape of a $20,000 block of capital stock in the one daily newspaper published in the "greater community," which has been given into the care and keeping of the Greater Community Association's board of regents; the income derived from this stock is to be contributed to the maintenance of the child welfare service, and with this is included assurance of adequate publicity for the work of the Greater Community Association. The story of how the hospital came to possess 40 per cent of the capital stock of this *Greater Community Newspaper* will, of itself, provide material for an interesting story and one that should carry encouragement to any who may be striving to promote efficient hospital service against the current of perverse political influence that not infrequently afflicts rural as well as urban communities.

I can not close this article without making the suggestion that this experiment is a tremendous challenge to the church. The fundamental principles of this organization are those laid down twenty centuries ago. It remained for a physician to discover the plan and to become the prophet of a new era. The church is beckoned forward. Public health and public morals are intimately related. Meanwhile democracy is justified.

## INVENTED BY WOMEN

### Not Content With Simply Nursing, Women in War Work Invent Appliances to Make Nursing Easier and More Effectual

Men have no corner on the inventive genius that is bringing new discoveries out of the experience of the war, according to an account in *The Toronto World*. A much improved splint has been invented by a woman who believed that something better than the heavy wood or iron splint was possible and practical.

Papier-mâché splints had been tried before because they are light, but they were considered unfit for surgical use because they can not be washed and are therefore unsterilizable. This woman, who is a sculptor by profession, has perfected a waterproofing process which renders the papier-mâché appliances suitable for every requirement of modern surgery.

These splints are built up around casts made of the injured limb or of the good limb and reversed. They are made sterilizable, non-inflammable, transparent to x-rays, anatomically accurate in fit, and easily taken to pieces. The work is being done by women sculptors.

A bed for spinal cases in which the patient's injuries may be dressed without the necessity of moving him is another product of a woman's mind. The bed consists of a secondary mattress made of strips of canvas, each of which unfastens separately. The patient lies on this mattress which is superimposed on the regular mattress of the cot bed. By means of screws, patient and canvas mattress can be raised two or three feet above the bed, the strips of canvas removed from beneath the affected part, and the injury dressed through the aperture.

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Things are saturated with the moral law. There is no escape from it. Violets and grass preach it; rain and snow, wind and tides, every change, every cause in nature, is nothing but a disguised missionary.—Emerson.

## LITTLE JOURNEYS TO PLACES "OVER THERE"

### To Plessis Piquet, L' Hopital Croix Rouge Americaine, Sanatorium Trudeau—A Beautiful Chateau and Magnificent Estate Used by the American Red Cross with the Permission of the French Government

By MARGARET J. ROBINSON, R.N., With the American Red Cross, Paris

THE first record of Plessis Piquet goes back to the year 1112, when permission was obtained to build the chapel. From that time until now, as the estate grew and as one piece of land and building after another was added, it was handed about from owner to owner by sale or by the gift of the church or the king. The name "Plessis" (from the late Latin *plexitium*, land enclosed with palisades) was given to it because one of its first landlords was careful to surround the whole property with strong walls and fences, and today a tombstone under the chapel bears a hardly legible inscription giving 1317 as the date of the death of Guiart du Plessis. A later seigneur, Jean de la Haye, called Piquet, gave his name to the estate, which is therefore distinguished as "Plessis Piquet" from the many other châteaux and villages bearing the name "Plessis."

Some of its terra cotta pavements were laid down in 1662. Colbert, one of the greatest prime ministers in the history of France, later acquired Plessis and the little villages around it, and the king's architect, Perrault, who designed the great parks at Versailles, planned and laid out for Colbert parts of the grounds and gardens at Plessis which still exist today.

In 1699, Plessis was bought by D'Artagnan—the D'Artagnan whom we all love in "The Three Musketeers" of Dumas, and who afterward became a marshal of France. In 1870 the terrace of the estate was a fortification in the Franco-Prussian war. Today Plessis Piquet is in a war again, but this time not as a combatant. The French government has given the use of the château and estate to the American Red Cross for a hospital for tuberculosis cases, and for a great preventive and educational institution to save the children for France. A large proportion of the children treated are from the invaded districts.

The chief nurse of our bureau and myself started out one morning for Plessis Piquet. Our American boy chauffeur in khaki didn't seem to know just how to get there, but between our feeble French and the kindness of the villagers along the narrow, winding, walled-in roads, we managed to find it. It didn't seem right to waste petrol making wrong turns here and there, but our consciences were not aroused as much as they should have been, because we were so engrossed in watching the quaint old French villages through which we passed, the gardens all decked out in brilliant autumn colors, the clear blue sky above, and a

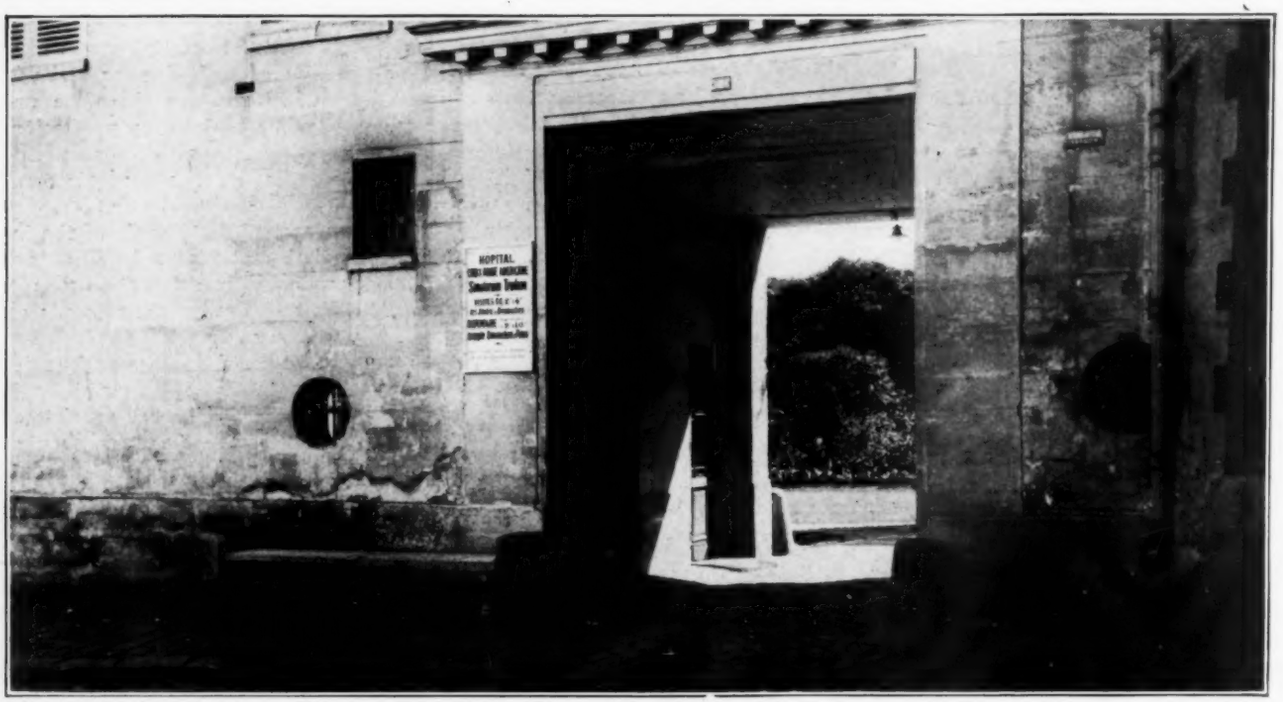

Fig. 1. The hospital gateway. Many enter here ill and without hope and go out into the world again filled with strength and courage

Fig. 2. La Grande Allee. This arched roadway leads to the children's barracks.

friendly avion and a dirigible floating over our heads.

After following all the turns of the road that anyone told us to take and winding down narrow cobbled streets between walls, we came into a sort of cul-de-sac. On one side was a little wine-shop with low doorways and a stable with a diminutive, inquisitive white donkey in front of it. Just at our right, above a crumbling old wall and a stone seat, we saw the sign, "Hôpital Croix Rouge Amèricaine," and we knew we had arrived. Our vocabulary for the rest of the day consisted largely of, "Isn't that beautiful?" and "What a wonderful work you are doing here!"

Entering the gateway, we asked the way to the *médecin-chef* from two young women we met there. One proved to be a Russian doctor, the daughter of a famous revolutionist, and the other an Irish nurse, married to a Russian officer in the French army as the result of a war romance. People are certainly international and cosmopolitan over here. In French hospitals all nationalities, except the Teutonic ones, work in harmony.

We were told that the *médecin-chef* was on the terrace, and the doctor and the Irish nurse offered to show us the way. On the left we saw the chapel, its walls yellow and crumbling, and on the right, the worn stone steps leading to the château. The château itself is a beautiful building, parts of which have been restored from the earlier buildings, with the more recent wings added during the last century. We walked through gardens and wooded paths thick with fallen leaves until we came to La Grande Allée.

Fig. 3. Playtime in the barracks for those who must stay in bed in the afternoons.

Fig. 4. Mass under the trees in the open air. The altar is on one of the old doorways of the chateau.

La Grande Allée, the day I saw it, looked like the road to Paradise. The trees were covered with bright yellows and reds and browns, meeting overhead. Patches of gold sunlight flickered through, and, at the end of the road, the sky over the valley made a clearly outlined gateway of blue ahead.

D'Artagnan built the terrace over the Sceaux and Fontenoy valleys, and it formed the barricades in the defense of 1870. Along the terrace now are rows of *barraquements* for the children, clean and light and airy, with orderly lines of small cots, well covered with thick warm blankets.

As we came out on the terrace, we saw a procession of aides, each with one of the small folks by the hand and more hanging on to her skirts and following after her. We, too, followed into the children's dining room barrack. It would have done your very soul good to see those youngsters eat, especially the two small boys who licked their plates after they had finished the food on them. Most of the children had been at Plessis Piquet long enough to get round and plump and were to be sent home soon to make room for others who needed the same building process that the first ones had completed.

Every three weeks, thirty of those in the best condition are discharged. Thirty new ones are taken into the isolation barrack, thoroughly examined, released in time to the preventorium on the terrace or to the hospital, and put under proper treatment. Most of the children are tuberculous, many just undernourished and of low resistance. The work at Plessis Piquet is the saving of women and children for France—one of the most beautiful and humane pieces of work that the Red Cross has done in the war. It started before we could get our men into the fighting lines, and brought the good will of America to France through the dollars that went into the Red Cross funds at home. Perhaps nothing else that we could have done would have brought us into closer touch with the French people, and there is no question about their intense appreciation of this work.

The barracks along the terrace are well planned and constructed, and sanitary. Each has a bathroom and running water, and all are thoroughly

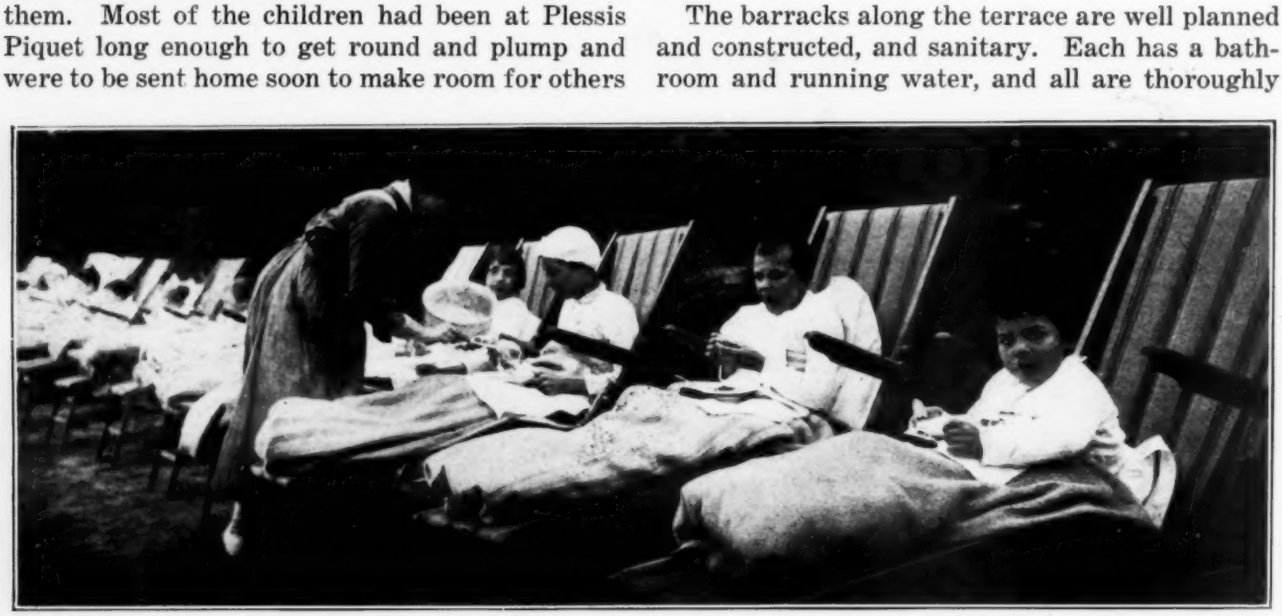

Fig. 5. A French aide bringing lunch to the children out of doors.

Fig. 6. The terrace. A fortification in the first Franco-Prussian war; now a home and a playground for the victims of the second one.

open to the air and sunlight, heated, and well protected from the weather. On the walls of the rooms are rows of numbered hooks for the hooded woolen capes, and metal numbers for each child's individual equipment of basin, towel, and toothbrush. One has a wholesome respect for French housekeeping after seeing the barracks at Plessis Piquet. The women and maids who have charge of the cooking and cleaning and the linens are so immaculate, systematic and orderly that they must be an important factor in the machinery of the Sanatorium Trudeau.

There is a school and a playroom barrack for the children, provided with tables, plenty of small rush-bottomed chairs, blackboards, alphabetical charts, and boxes along the wall for the playthings. The children who are able come to school in the morning. The teacher in charge says that they are for the most part pliable and easy to discipline—much more so than the American children of the same class. Outdoor games are held at regular intervals, and a French officer gives military drills for the older boys three times a week.

As we came out again into the open we met groups of the children coming in for their routine afternoon rest in bed. First came Mitri and Odette, clinging to their favorite aide—Mitri and Odette, whose homes had been destroyed and whose fathers had died in battle for *la patrie*. Upon request, each made a solemn bobbing courtesy and said, *"Bonjour, Madame,"* and Odette, thinking it proper and respectful to do so under the circumstances, came forward and lifted up her face to be kissed.

The barrack where the women personnel live and eat was comfortable and attractive. It was divided by partitions and each section curtained off with brown burlap. Several of the small rooms were brightened by cretonne window curtains, pictures and photographs from home, and garlands of autumn leaves and freshly picked holly from the trees nearby. A good fire in the dining-room stove added a note of cheer as we all sat down to a dinner of meat, potatoes, lentils, stewed fruit, and coffee. Our company consisted of the graduate nurse on duty in the barracks, the teacher, French and American aides, social work-

Fig. 7. The dinner hour. Only the plates are left when it is over.

ers, the Russian doctor, the Irish nurse, and one American soldier.

After dinner we walked back through La Grande Allée and the gardens to Setelange, another building of the château, which is used for the children's hospital. The American woman doctor in khaki uniform who is in charge is most devoted to her sick babies. A British nurse looks after the nursing, assisted by an American nurse, some French aides, and floor maids.

At Setelange a lot of pitiful looking young children and babies and a few new babies were receiving both scientific and loving care; and in one room on the top floor ten pink-aproned babies were seated on a big army blanket on the floor, very solemnly and silently trying to play.

Most of the floors at Setelange are laid with very old red tiles, and some on the lower floors are of a dark, highly polished wood. I asked about the polish and was told that the maids still applied it after the fashion of a century ago. They tie brushes on their feet, walk around, and rub in the polish until the floors shine. Some of the walls were twenty to twenty-five inches thick, and the doorways hardly high enough to enter without stooping.

After Setelange we passed from the entrance court, over the cobblestones and through a gate in the wall next to the little wine-shop, to the receiving unit. This unit is in a tumble-down building now in the process of repair. On the top floor is the office of the American dentist who looks after the teeth of the five hundred patients and personnel at Plessis Piquet, and he surely finds plenty to do. Thirty children are housed here until they are released to other buildings.

Across the gardens is a small building used for the emergency surgery and dispensary service. It also houses some of the nurses and aides and the old curé of the village. On the first floor is an immaculate operating room, freshly enameled white, made from the reception room of the house.

There are two wards on the second floor, one for men and one for women, holding about twenty beds in all. We were told that Plessis Piquet was the only place where the four villages of Sceaux, Fontenoy-aux-Roses, Clamart, and Chantillon could procure medical or surgical aid. The surgical nurse in the building was a Belgian girl who had received her training under the martyred Edith Cavell.

We went back to the château for afternoon tea, and, as we opened the gate in the wall to come through, the little white donkey from the stable across the way stood before us, begging to come in. After tea, we went over the château, which is the women's hospital. It has several well-kept, roomy wards for the women, and in the garden on the terrace many of them reclined in chairs, wrapped in blankets, reading and sewing, and

Fig. 8. One of the many wonderful views which abound in the region occupied by Sanatorium Trudeau.

Fig. 9. In a few weeks these convalescents, strengthened by fresh air and good food, will again be their former selves.

doing the eyelet embroidery for which the French women are famous.

Before we left I met Dr. James L. Gamble, the director, in his office at the head of the chateau steps. The Sanatorium Trudeau is under the direction of the Bureau of Tuberculosis of the American Red Cross in France. Dr. Gamble and his associates of the Bureau have had much to do with the successful conversion of Plessis Piquet into the Sanatorium Trudeau, and have treated this beautiful old chateau and estate with all reverence in the necessary changes they have made. They have accomplished a great work for the American Red Cross—a work that has reached the heart of France. Daily they are saving women and children for the new France that will arise triumphant from the chaos after the war is won.

## FROM OUR FIELD EDITORS' NOTEBOOKS

### A Hospital Situated in Historic Surroundings—Home for Incurables Characterized by Atmosphere of Cheer—Institution for Wounded "Dough-boys" Club-house Rather Than Hospital

**Carney Hospital, Boston**

The Carney Hospital of Boston stands on one of the terraces of Dorchester Heights, a site pregnant with historic interest. It was up these heights that Washington's men stole on that memorable night of March 4, 1776, during the siege of Boston, much to the surprise and discomfiture of General Howe. The occupation of this strategic position eventually forced the evacuation of Boston by the British. Adjoining the hospital grounds is Thomas Park, crowning the heights. Here, too, stands the picturesque Dorchester Monument.

Sister Raphael escorted me to the roof of the central portion of the hospital building, the view from which she said was the finest thing they had. All of Boston and the harbor beyond stretched beneath us. To the east lay Fort Independence and, sweeping out beyond, the Boston Harbor, "protected by its skirting of beautiful islands." To the south we could see many of the seacoast towns, and to the north, Bunker Hill Monument and the Old North Church, recalling the "Midnight Ride of Paul Revere."

The Carney Hospital was established on June 9, 1863, and will therefore shortly complete fifty-six years of service to the sick. It is named after Mr. Andrew Carney, who originally purchased the Howe residence with its surrounding lawns and orchards and presented them to the Sisters of Charity of St. Vincent de Paul. The main part of the present building, the first sections of which were completed in 1868, is a five-story brick and stone structure with a sixth story at the central portion where the operating suite is located.

This operating suite contains some interesting features. The anesthetizing room is finished in a maroon color and, with its curtains, pictures, writing desk, and flowers, gives the impression of being an ordinary room such as one might find in any home. The thought, of course, is to keep the patient, while still conscious, from any environment tending to arouse fear and apprehension.

Two of the four operating rooms, moreover, are decorated in gray, except for a four-foot marble wainscoting. The operating tables and other equipment in these rooms are gray, as are also the cheviot gowns worn by the surgeons and nurses. Gray has proved extremely satisfactory to the surgeons, in that it concentrates the light much more thoroughly on a patient than a room finished in white.

In re-laying the floor of the hallway from which the operating rooms radiate, it was hoped that terrazzo could be used, but the cross beam would not support the weight; consequently a thin layer of cement was laid instead. Carried up the wall about four feet, this serves as an excellent protection against injury by the carriages, and eliminates the all-too-often unsightly broken wall plaster, especially at the corners.

A spacious solarium, 30 by 40 feet, has recently been constructed on one side of the hospital wing, supplying a

long-felt need. The solarium on the second floor is furnished in beautiful brown oak, that on the third floor, in golden oak, and the one on the fourth floor, in dark green oak. The roof of the solarium is used as a roof garden.

I found two interesting features in the nurses' dining room. In a space formerly occupied by a window, Sister Raphael had installed a steam closet, where the food is kept warm for those nurses who are detained on duty and are unable to partake of their meals at the customary hours.

Another interesting feature, which may be more common than I suspect (it is in use in Johns Hopkins Hospital, Baltimore), is a napkin-rack attached to the wall of the dining room just to the right of the entrance door. This rack is divided into small pigeon-holes large enough to hold each nurse's napkin neatly rolled and encircled in a napkin ring. As each nurse enters, she takes her napkin from this rack and returns it to the rack as she leaves the dining room. This arrangement undoubtedly makes for orderliness and saves time in the setting of the tables.

It has been the policy of the hospital, ever since 1903, to maintain continuous service in its principal departments, such as medicine, surgery, orthopedics, and gynecology. This policy greatly lightens the task of the sister in charge, and, of course, works to the advantage of the patients.

The hospital has a bed capacity of 215 beds. During 1918 it gave care and treatment to 264 pay patients during a total of 4,964 hospital days; to 2,514 part-pay patients during 31,709 hospital days; and to 879 free patients during 3,318 hospital days.

An excellent training school is maintained, with affiliation with the Brady Memorial Hospital of Albany,

Fig. 1. Carney Hospital, Boston, situated on historic Dorchester Heights.

N. Y., for maternity work. Last year there were 109 nurses in training.

Sister Raphael hopes to get enough money soon to put up a new building for much-needed laboratory and x-ray facilities, as well as for living quarters for the interns of the hospital.

**Holy Ghost Hospital for Incurables, Cambridge, Mass.**

A short five minutes' walk up Cambridge street from Harvard University brings one to the Holy Ghost Hospital for Incurables. This hospital is one of a group of hospitals and orphanages directed by the Order of the Grey Nuns, established in Montreal in 1747 by Madame d'Youville, whose first work was in the General Hospital in Montreal. Some idea of the extent of the work of the Grey Nuns may be gained when it is realized that in Montreal alone they direct twenty-three institutions, including hospitals, kindergartens, orphanages, homes, and industrial schools. From Montreal their activities have radiated throughout Canada. In the western provinces of Canada twenty-eight institutions are under their guidance. They also maintain a number of hospitals and orphanages in the United States.

The Holy Ghost Hospital for Incurables was established December, 1893, when the Reverend Father Scully, pastor

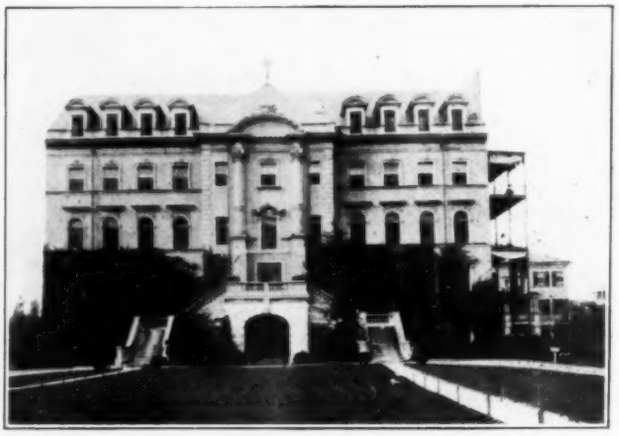

Fig. 2. Holy Ghost Hospital for Incurables, Cambridge, Mass.

of the Church of St. Mary's of the Annunciation, gave the Grey Nuns the present site of the hospital, comprising some six acres of land, and $25,000. With this money a small cottage hospital was built in 1894, which is now used as the residence of the sisters and attendants.

The present building was dedicated November 17, 1898. The original plans call for a wing at each end, which, when added, will give the building a richer and more rounded-out appearance architecturally.

The present building is T-shaped, a section running back from the center of the long axis of the building. There are accommodations for 130 patients in wards of varying size. The west end of the building is devoted to galleries which open to the chapel and make it possible for many of the patients to be wheeled in for the religious services. The roof of the section running back from the center of the building is used as a roof garden, part of which is covered by a broad canopy to protect the patients from the sun. To reach this roof garden, one steps through a bright, attractive day-room used by ambulatory patients.

A not uncommon complaint among hospitals is that their serving rooms are too small, but one of the praiseworthy features of this hospital is the adequate amount of space allotted to the serving rooms.

As its name indicates, the Holy Ghost Hospital is a hospital for incurables. Patients suffering from cancer are the most numerous. Tuberculosis and paralysis also form a large percentage of the cases, while heart disease, hip, joint and bone diseases, tumors and rheumatism are to be found among the rest.

There are seventeen or eighteen sisters in charge of various departments of the hospital; nine of these, who come directly in contact with the sick, are trained nurses. Under their direction, about thirty-nine attendants devote themselves to the care of the patients.

As I walked through the various rooms and wards, I

could not help but be impressed by the spirit of hope and cheerfulness that prevails throughout the hospital. One of the male wards is especially entertained and stimulated by the merry jingles, touching mainly on current events, of an old gentleman of 65, who is suffering from paralysis of his left side, and who jestingly informed me that he still had one hand and a little gray matter.

### U. S. General Hospital No. 32, Chicago

A hospital, and yet not a hospital—that's No. 32, situated in the heart of Chicago's great south side. The five hundred seven soldiers who are being cared for are, all of them, wounded or convalescing—that's why it's a hospital; but every one of them have been through the Big Adventure "over there," and, although they are patients, they are, first of all, lively, red-blooded American boys—that's why their varied activities take away the hospital impression. To the casual visitor it seems more like a club-house than a hospital. The atmosphere just buzzes with life and activity, and the boys, happy in the various types of occupation supplied them, take their wounds and disabilities in the lightest possible manner.

On the particular day I visited the institution, the sunny afternoon and the call of spring had left most of the beds vacant for an hour or two, but the many who were unable to be out-of-doors employed their time to the best advantage and seemed unusually happy and content. One lad was busy on a miniature Red Cross ambulance; another, propped up in bed, amused himself with a game of solitaire; a third was receiving instruction in mathematics from the occupational aide who sat at his bedside; while a fourth laboriously pounded out the elementary "a-s-d-f-g" finger exercises on a typewriter. Flowers and sunshine filled the ward. No wonder its occupants were happy! Even the victrola in the corner (donated through the courtesy of the Red Cross) played the popular "Smiles," which indeed seemed to express quite well the spirit of the institution. The boys love music—so much, in fact, that one of them, a hero of Argonne Forest, made an improvised ukulele from a cigar box and a small two-by-four discarded in the quartermaster's lumber pile, with the aid of a jack knife and a saw. Its infectious melodies spread such lyric joy throughout the ward that several of his comrades are now knee-deep in the art of manufacturing ukuleles.

Photo by courtesy of the Chicago Daily News

Fig. 3. One of the wounded soldiers at U. S. General Hospital No. 32, who is taking the electrical engineering course at Wendell Phillips High School.

The boys of the hospital boast a newspaper called *The Fair Wear and Tear*, and are also represented by the *Fort Sheridan Recall*, which is published weekly.

Everywhere the splendid work of the occupational department is evidenced in the spirit of the patients. With a corps of twenty-one happy occupational aides to guide and inspire them, the men have taken a keen interest in the activities, which are not only to assist them in gaining the use of injured members, but to prepare them for places in the industrial world. A late report shows that, of a total of 427 patients who are physically able to take the work, 204 are engaged in some kind of occupational effort. Classes are held in elementary and advanced English, business English, economics, natural science, mechanical drawing, French, Spanish, penmanship, commercial arithmetic, typewriting, shorthand, business methods, photoplay, and elementary science, as well as in carving, commercial art, and photography. When possible, the men go to the class rooms on the third floor, but, if they are unable to leave their beds, the aides come to them, bringing the necessary books, tools and other materials. The students of photography, all of them overseas wounded men, have begun taking a series of views of the hospital and its activities, which are to be printed on a set of twelve post cards and given to each patient to send home to his folks.

Fig. 4. Out-Patient Department of Carney Hospital.

When the hospital was opened on January 25, 1919, there was little equipment for shop or vocational work. The spirit of the institution, which is to surmount all obstacles without hesitation, would not permit of waiting for its arrival, and accordingly arrangements were made with the Board of Education to use the facilities at Wendell Phillips High School, a few blocks away. As soon as the boys are able, therefore, they are taken to the high school in vehicles supplied by the Army Motor Transport Corps, where they receive the benefit of the completely-equipped vocational education shops, as well as of the commercial and academic classes. About seventy-five patients from the hospital are enrolled in the classes each week. Some take only morning classes, others only the afternoon ones, but many remain for the entire day from 9:30 to 3:30.

Perhaps the most vivid impression one carries away from this hospital is the care-free, cheerful nature and the lively do-or-die spirit of the patients. Everyone within the four walls seems content. Undoubtedly much of the credit for the harmony and happiness within the institution is due to Lieut.-Col. J. E. Darby, the commanding officer, whom one of the boys enthusiastically described as a "regular fellow" and "the finest superior who ever wore a uniform."

The MODERN HOSPITAL

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## Who Started Hospital Social Service?—The Time, 1636—The Place, Paris—The Man, Vincent de Paul

Credit for inaugurating hospital social service in organized form is claimed on behalf of at least two institutions in Boston, an equal number in New York, and one in Baltimore. All of the institutions in question deserve credit for emphasizing the social backgrounds of disease, but the honor of organizing hospital social service belongs to France.

In 1900 the Administration Générale de l'Assistance Publique published an account and history of the work of the department, under the title "L'Assistance Publique en 1900." The following quotation is taken from page 166 of that volume:

*Oeuvre de la Visite dans les Hôpitaux*

"De toutes les œuvres dont nous parlons ici, celle de la *Visite dans les hôpitaux* est de beaucoup la plus ancienne et compte un grand nombre de membres.

"Réparties en trois groupes, les dames sociétaires vont, les unes, sous le nom de *visitantes*, apporter au malade l'aide matérielle et morale dont il a besoin; d'autres, sous le nom *d'assistantes*, informées par les premières de la situation des malades visités, portent à domicile des secours, soit à ces malades sortis convalescents de l'hôpital, soit à leur famille, s'ils sont encore en traitement; d'autres, enfin, appelées *collectrices*, sont chargées de procurer à l'œuvre des ressources.

"Organisée en 1636 par Vincent Depaul, interrompue par la Revolution, puis reconstituée d'abord au profit de l'Hôtel-Dieu, et, successivement, étendue à tous les hôpitaux, cette œuvre est, on le voit, une vieille collaboratrice de l'Administration hospitalière parisienne.

"*L'Oeuvre de la Visite des malades protestantes dans les hôpitaux*, œuvre semblable a la précédente, quoique moins ancienne, occupe une place importante dans l'ensemble des œuvres similaires; fondée en 1860, par deux dames protestantes, elle fut définitivement constitutée en 1867.

"D'après le règlement de cette œuvre, les malades sont visités, deux fois par semaine, par les dames sociétaires dont la mission consiste à leur apporter des consolations et des secours en nature, à écrire pour eux à leur famille, à faire les démarches qui leur sont utiles. . . .

"Ces deux œuvres entretiennent avec l'Assistance publique des relations qu'un commun désir du bien contribue à rendre profitables aux intérêts des malheureux.

"Sans doute leur origine confessionelle a pu, jadis, influer sur les tendances et les procédés de l'une et l'autre de ces œuvres, dont certains membres ont encouru, dans le passé, le reproche de prosélytisme.

"Mises en garde contre les excès d'un tel zèle, ces œuvres ont toujours affirmé depuis cette époque, leur volonté de borner leur action à la protection et à l'assistance de ceux qu'elles visitent, en s'interdisant toute propagande et en exigeant de luers visiteurs le discrétion la plus absolue dans l'exercice de leur mission. L'Administration veille d'ailleurs à ce que les instructions relatives à la liberté de conscience soient partout obéies."

From 1636 until the French Revolution the hospitals of Paris had their full-fledged social service auxiliaries, including solicitors and contributors of funds, ward visitors, and a staff of home visitors. The first group apparently succeeded in obtaining the required financial support; the second, in the language of the report, "brought to the sick the material and moral aid of which they had need," while the third group, informed by the second concerning the requirements in each case, made domiciliary visits and advised, directed, and assisted convalescents on their departure from the hospital.

The whole system was disarranged at the time of the French Revolution. Shortly after the Revolution it was reestablished, first in the Hôtel-Dieu, then in other hospitals, until finally each hospital once more had its social service organization. An intimate history of the work which is so briefly sketched in the report of the Assistance Publique would doubtless be instructive to American social service workers, and it is to be hoped that such a history will some day be made accessible to those who are interested.

The work begun by St. Vincent de Paul (one hardly recognizes the name "Vincent Depaul") was undoubtedly prompted by religious as well as humanitarian motives, and its chief beneficiaries were Roman Catholics; in 1867, however, a parallel organization entered the field under Protestant auspices, planned for the benefit of Protestants. Charges of proselytism were at one time made against both groups, but the matter was eventually adjusted to the satisfaction of the pub-

lic officials and, the religious zeal of the extremists having been curbed by the objections raised, the work is now said to be carried on with due regard to the liberty of conscience which the laws of the Republic guarantee to all citizens of France.

Modern America is not so very modern after all. *Hospital social service did not have its origin either in New York, Boston, or Baltimore, but was rediscovered in America after nearly three hundred years of flourishing existence in France.*

All honor to the rediscoverers! They have done and are continuing to do a good job. And glory everlasting to St. Vincent de Paul, founder of the Lazarists, of the order of "Filles de la Charité" and of the Foundling Hospital at Paris, and the true patron saint of all hospital social service.

S. S. GOLDWATER, M.D.

### Sane Words on the Nursing Problem

Some of the sanest and soundest commonsense that has come to our attention on this subject is embodied in a letter published in another column from Miss Nancy E. Cadmus, superintendent of the Manhattan Maternity and Dispensary. Referring to our editorial last month on "Nursing in Families of Limited Means," Miss Cadmus says, "I cannot rid myself of the belief that much of the difficulty in working out these problems arises from a failure on the part of all concerned to secure an all-around point of view. Why should so much time and energy be wasted in 'recriminations' and criticisms that are anything but constructive? The development of nursing may be represented in epochs, the first being the introduction of schools of nursing into the hospitals; second came the period of exploitation; the third epoch may be described as the period of standardization; now we apparently have reached the fourth epoch, for which I know no better name than that of readjustment, in which there *must be a coming together.*"

The absolute necessity of the "coming together" emphasized by Miss Cadmus is illustrated in a regrettable incident reported from St. Louis. Here, it is said, a demand for increased pay having been presented to the hospitals on behalf of the graduate nurses, the latter declined a request on the part of the hospital authorities for extension of time to give opportunity for a conference on the subject. We omit details and refrain from comment beyond giving the bare facts, because we are unable to secure an expression from both sides. The president of the local graduate nurses' association, when requested to give a statement of the case for publication in THE MODERN HOSPITAL, replied that it was unlikely that she would have time to prepare it. We are, therefore, unable to comment intelligently on the questions at issue.

The occurrence does, however, suggest two general reflections, which we feel justified in presenting here. One is that, as pointed out by Miss Cadmus, "failure to secure an all-around point of view" is responsible for most trouble of this kind, and that the two sides must get together and try to obtain a mutual understanding. The other reflection which occurs to us is that, no matter how good a case one or the other party to a controversy may have, refusal to put that case before the public inevitably casts a shadow of doubt upon its justice. And this leads up to another point well taken by our correspondent, which is that this is a question which concerns primarily neither the doctors nor the nurses, nor yet the hospital authorities, but the public. It is the right and the duty of the public to be informed on this question, and to see that its point of view is adequately represented in any solution attempted. In Miss Cadmus' own words, "the mistake we are making is to regard it as the responsibility of individuals or certain groups of individuals rather than that of the community."

It must be admitted that the public's own attitude towards these questions too often extenuates this error. Again quoting Miss Cadmus, "the community has been too prone to accept the view that health measures—let them be exercised by the doctor or the nurse—are not its (the community's) business." If the public is but languidly interested or frankly bored—if it can scarcely be brought to appreciate its own stake in the matter at issue, much less the justice in the respective claims—why should the matter not be fought out as a private controversy, each side taking advantage as it has the power and keeping what it can? Primarily because no question is ever settled until it is settled right. Guerilla warfare between nurses on the one side and physicians or hospital authorities on the other is bound to end only in harm to both and even more harm to the public. A court of public opinion must be formed for the settlement of these questions, and they must be settled, not as matters of private controversy, but on their true basis, as matters of public concern.

### A Stimulant to Fearless Thought and Disillusionment

The human mind has infinite resources for deceiving itself. Our desires unconsciously govern our judgment, and we habitually accept as fact those ideas which will least tend to disturb our

lives. For this reason most minds revolve within a fixed sphere of thought from which they seldom emerge.

Occasionally, however, we make contact with a mind whose dynamic force bursts beyond the bounds of habitual thought and creates new ideas. A well-rounded idea launched into the world becomes the greatest of all human forces. It shatters the incrustations of thought which hold the mind within restricted limits and frees the energy of spirit which transforms the human race. Contact with such a thought is uncomfortable to those who dislike change, whose egoism can not stand the upsetting of cherished notions, and whose love of comfort is stronger than the desire to accept the truth.

All such are seriously warned against reading a remarkable book published by Dr. E. A. Codman of Boston, entitled "A Study in Hospital Efficiency as Demonstrated by the Case Report of the First Five Years of a Private Hospital."[1] The title sounds dull enough, but the book is fascinating.

In this book Dr. Codman has disrobed the medical profession of many of its time-honored humbugs, behind which many of the most prominent men hide their true motives. He has fearlessly attacked the very foundations of the system by which men secure advancement in medicine and surgery, but his reasoning is logical and supported by scientific data. He is radical in insisting that opportunity and advancement in charitable hospitals be awarded according to the efficiency of the physician or surgeon, and suggests a practical system by which efficiency can be rated. Yet he prefaces his book with these pessimistic remarks:

"It is against the individual interests of the medical and surgical staffs of hospitals to follow up, compare, analyze, and standardize all their results, because:

"1. It is seldom that any single individual's results have been so strikingly better than those of his colleagues that he would desire such comparison and analysis. Perhaps the results as a whole would not be good enough to impress the public very favorably.

"2. An effort to thus analyze is difficult, time-consuming, and troublesome, and would lead, by pointing out lines for improvement, to much onerous committee work by members of the staff that would be still more time-consuming, difficult, and troublesome.

"3. Neither trustees of hospitals nor the public are as yet willing to pay for this kind of work."

Dr. Codman's great gift consists in stripping his own mind of pretense and hypocrisy. His book tends to strip the minds of its readers of the same qualities. The book is a stimulant to clear, logical, fearless thought. It is not a book which will delight lazy minds, however. When you read it, be prepared for an exhilarating climb up the heights of thought which lead to disillusionment and truer vision.

[1] A Study in Hospital Efficiency as Demonstrated by the Case Report of the First Five Years of a Private Hospital, Dr. E. A. Codman, Codman Hospital, Boston, $1.00.

### A New Member of the Hospital Staff

One of the therapeutic agencies which has been too long and too generally neglected—no more, perhaps, in hospitals than by the medical profession outside, yet certainly to the detriment of hospital efficiency—is physical exercise. Patients are now sent back to their homes after long illnesses or after surgical operations without any attempt to build up their general condition by judiciously selected and skillfully applied physical exercise. Some day this omission will be recognized as neglect; and that day is perhaps not very far distant.

Among the innovations introduced by war hospitals which are probably destined to have a beneficial practice is that of the systematic employment of supervised exercise in convalescence. We publish this month two papers which give some idea of the way in which the principle of exercise has been worked out in the army and navy, respectively. Mr. Walter D. Powell, athletic director of the sixth naval district, Charleston, has worked out a system of exercise for the physical reconstruction of convalescents which has been adopted in naval hospitals; his testimony to the value of physical exercise in the hospital will therefore be read with interest. On another page A. F. Gugel of the sanitary corps of the army describes some of the methods used at General Hospital No. 9, Lakewood, N. J., in rebuilding convalescents, particular those affected with cardiovascular conditions, by means of systematic exercise supplemented by occupational therapy.

Now, why should not this therapeutic measure be employed to its fullest possibilities by every hospital? Why should not every general hospital of sufficient size have on its staff a physical director, who, working with the physicians on the various services, should arrange and supervise suitable courses of graduated exercise for all patients capable of being benefited by it? He would cooperate also with the director of occupational therapy, where such a department exists, making sure that the kind and amount of exercise involved in the occupation given the patient was

adapted to his physical condition. Before a patient leaves the hospital, it might well be the physical director's duty to inquire into the patient's occupational conditions and habits of exercise, and to prescribe exercise to correct faulty balance induced by one-sided life. An out-patient clinic where suitable exercise could be prescribed for people in a generally run-down condition would meet a real need.

Not the least important part of the physical director's duties might be the maintenance of the hospital personnel in the best possible physical condition. Nurses have a good deal of physical exercise but it is very ill balanced. Physicians are notoriously inclined to take little or no exercise or to crowd all the exercise they do take into their vacations.

The experience of men who have established or aided in establishing such work for the army and navy would surely be most valuable to our civil hospitals, and we hope to hear before long that some hospitals of the better class have taken advantage of the opportunity to establish departments of physical reconstruction under competent men.

### Once More the Rural Hospital

The rural hospital problem perhaps seems to some of us scarcely deserving of serious attention. Indeed, we sometimes grow impatient at the necessity for applying the term "hospital" to an institution so meager in accommodation, equipment, and organization that it is not capable of contributing to scientific advance or medical education.

But, if the splendid city hospital deserves to exist, this is not because of its beautiful construction, elaborate equipment, and perfect organization, but because it meets a need. The rural hospital must stand or fall, not by its success in imitating the metropolitan institution, but by its success in meeting rural needs. How important those needs are we are prone to forget, so much more clamorously voiced are the needs of the city. Yet consider: In spite of the enormous growth of cities, our population is still predominantly rural, many great and populous sections of the country being quite inaccessible to large cities and large hospitals. For instance, the state of Arkansas has only three general hospitals of over a hundred beds, and one of these is an army and navy institution, while another belongs to a railroad; Alabama has only five; Florida, two; Nevada, none; New Mexico, none; North Dakota, three.

Not only is this so; our cities themselves draw their food and water supplies and much of their population from the country. The health of the country affects the very lifeblood of the cities. The great health problem of the future, therefore, is the rural health problem—and to call it a problem is no mere empty phrase. That, away from the smoke and the grime of the cities, people flourish in health without taking any more thought for it than the lilies of the field, has been proved a pleasing fiction. Rural health surveys made in various parts of the country show an alarming percentage of physical defects. Now, the fact is that, at present, speaking generally, the rural hospital is not prepared to take leadership in the rural health movement. It must, we believe, perform a great task by preparing to assume such leadership, or else—but the alternative is not to be considered; the rural hospital must rise to its opportunity.

How? The Greater Community Association of Creston, Ia., under the guidance of Dr. F. E. Sampson, is working out an answer to this question. On another page Dr. A. E. Kepford describes some of the features of this interesting and important experiment. Two of these features seem worthy of special emphasis.

In the first place, the Creston experiment frankly recognizes that the rural hospital must rest on a broader basis than the purely medical. It is a social agency; and, on that basis, the whole community has been organized to work for the hospital as well as to be served by it.

In the second place, Dr. Sampson seems to have worked out a most interesting system of what might be called democratic financing by the community. Thus, on the one hand, the wealthy patron, with his often demoralizing influence, is eliminated; and, on the other, the interest of the people at large—so much more inclined to value what they pay for—is secured. At the same time, the institution is apparently placed on a sound financial basis.

We feel it a privilege to present Dr. Kepford's paper.

### An Appeal from Belgium

We have urged on Americans from time to time[1] the appropriateness of aid from this country to the stricken Belgian nation. We have emphasized the advantage which we, as well as the Belgians, might draw from a foundation for social research in that country. We publish this month a communication from Dr. René Sand, to whom we owe the original suggestion that Ameri-

[1] A Message from Belgium, THE MODERN HOSPITAL, October, 1918, XI, 256; Our Opportunity in Belgium, THE MODERN HOSPITAL, December, 1918, XI, 460; What a Laboratory of Social Science Might Mean to the World, THE MODERN HOSPITAL, January, 1919, XII, 44.

[2] How America May Help Belgium After the War, Captain Dr. René Sand, THE MODERN HOSPITAL, October, 1918, XI, 256.

can aid to Belgium take this form.[2] The poignant pathos of Dr. Sand's few words of appeal makes us feel ashamed to import into the case any element of American self-interest.

### The American Hospital Conference

On April 21, 1919, representatives of eight prominent national societies met in Chicago for the purpose of organizing a union to promote the development of American hospitals. The organizations represented were: American Hospital Association, American Medical Association, American College of Surgeons, American Nurses' Association, American Association of Hospital Social Service Workers, Association of American Medical Colleges, Catholic Hospital Association, and the Federation of State Medical Boards. The first fruit of the new union is the American Hospital Conference, in which all of the organizations named will be equally represented, and which four additional organizations, namely, the American Association of Industrial Physicians and Surgeons, United States Public Health Service, Medical Department of the Army, and the Bureau of Medicine and Surgery of the Navy, have already been invited to join.

The new partnership is one which should never be dissolved. Each of the constituent societies is in a position to make—has, indeed, already made—notable contributions to hospital progress. The activities of all of the societies will hereafter be stimulated by periodical conferences, and in place of the old patchwork program there will be introduced a rational design by means of which hospitals will be fitted to the country's needs.

What are some of the things that the American Hospital Conference may be expected to accomplish?

It will define the functions of the various necessary types of hospitals.

The relations of the hospital to the community will be clarified.

Hospital finances will be expended to better purpose.

The expenses of hospitals will be more equitably distributed.

Official hospital inspections will be made to dovetail perfectly.

Hospitals will be taught when to act independently, when to cooperate and when to combine.

Hospital trustees will acquire a keener and fuller realization of their responsibilities in the training of physicians and nurses.

Wise and uniform legislation will be enacted in several states regulating the training of medical students and of nurses.

The output of fully trained nurses and of trained attendants will be made to measure up to the country's need.

There will be a more general acceptance of certain indispensable standards of work and equipment which have been ably, but not always successfully, advocated by the American Medical Association through its Council of Medical Education, by the American College of Surgeons, by the American Nurses' Association and the American Hospital Association.

Medical men who have not heretofore concerned themselves with questions of hospital organization and administration will be induced to do so and in consequence the determination of vital questions of hospital policy will no longer be left to laymen who are unfamiliar with the fundamental principles involved.

The purpose of medical social service work will be clearly defined; hospital social service will be standardized and improved.

Means will be found to develop adequate facilities for diagnosis and treatment not only in the cities where the task is comparatively easy, but in rural communities for which entirely new facilities must be devised.

Each of the constituent organizations of the conference will have the strong moral support of all of the others. An authoritative center will be established for the guidance of public officials who are concerned in hospital administration, of legislators, and of men of means who desire to benefit the community through donations to hospitals.

With such purposes as these the formation of the American Hospital Conference must be hailed with enthusiasm. April 21, 1919, is indeed a red letter day in American hospital history.

### Death of Miss Delano

As we go to press the sad news reaches us of the death, on April 15, at Base Hospital No. 8, Sauvigny, France, of Miss Jane A. Delano, one of the foremost figures of the nursing world. Miss Delano's work during the war brought her into public prominence, for it was under her direction that more than thirty thousand nurses were recruited through the American Red Cross for service with the army and navy after the United States entered the great conflict. Her work for the Red Cross was merely the culmination of an active and distinguished career which brought her friends as well as honors.

Miss Delano served the American Red Cross from first to last without compensation—a full-time volunteer. She was the last of her family, her passport application, filed a few months ago, giving the name of a prominent nurse as her "nearest relative."

## "WHAT'S A CONVALESCENT CENTER"?*

### Private Hicks Didn't Care So Long As It Wasn't a Hospital—How He Taught His Game Arm to Carry On

By LT.-COL. HARRY E. MOCK, M.C., U. S. A.

"Good-bye, fellers, I'm leavin' y'u."

"Where you goin'—home?"

"Nope, to Camp Dix to the Convalescent Center."

"What in hell is a convalescent center? Another excuse to keep you in the army, I suppose!"

"Guess so, anyway they say it isn't another hospital and I'll be that much nearer home." And like a true soldier, still playing the game, Private John Hicks with his stiff elbow and paralyzed left hand, to say nothing of a piece of Hun shrapnel in his right leg, limped away to obey orders.

Hicks had been in three hospitals in France—the evacuation, base, and finally the special orthopedic hospital, and had already spent his three months back in this country in two others. Of course he had sense enough to know that this was necessary, "all done for his own good—but a feller sure gets tired of hospitals."

It wasn't half bad in this last one, for the reconstruction aides had taught him to use a typewriter. Some way, trying to hammer the keys had brought a little strength back into his paralyzed fingers—not much, of course, but, as he expressed it: "Kinda feels like I'll use the old pickers yet." Then the "docs" had been on the square. When he landed in this place he thought he was done for as far as ever working again. But they had baked his arm, rubbed it, and put him wise to many little tricks about using it. And that was some good job they did on his leg, healing up that dirty wound.

Today the C. O. said they needed his bed and so he would be transferred to Camp Dix—Convalescent Center. No, not a hospital, but "a place where he would be a soldier once more just for a short time before they discharged him."

AFTER YOU'VE BEEN WOUNDED AND YOU STAY IN A HOSPITAL IN FRANCE SEVERAL LONG AND WEARY MONTHS
-AND WHEN YOU LAND IN THE U. S. A. YOU CAN'T JOIN THE HURRAH CROWDS
-AND YOU GO TO ANOTHER HOSPITAL HERE NOT CARING WHAT HAPPENS BECAUSE YOU'LL NEVER BE ABLE TO EARN A LIVING WITHOUT YOUR RIGHT ARM
-AND THE GOVERNMENT TELLS YOU IT WILL TEACH YOU A NEW TRADE WITHOUT CHARGE
- AND FINALLY YOU ARE ALL FIXED AND GET A BETTER JOB THAN YOU EVER HAD — ALSO YOUR COMPENSATION AND INSURANCE AND EVERYTHING
-OH-H-H BOY!!! AIN'T IT A GR-R-R-RAND AND GLOR-R-RIOUS FEELIN'?
TA TATA TYA TYA
BRIGGS

Cartoon by Briggs, reprinted through the courtesy of *Carry-On*.

For the last month he had been going to school at the hospital—not exactly a school, but a shop where Captain Hendricks and Sergeant Chesley were teaching him stunts about building an automobile. Before the war he had worked around a machine shop and chauffeured a little, but in the last four weeks he had learned more about mechanics than he ever knew before. Take the carburetor, for example, he "knew what the thing was, but now he knew how the durned thing was made and what is was for." Yes, he hated to quit that school work.

So, thinking along this line, he consulted Captain Hendricks.

"Cheer up, man, you'll get some more school work in the convalescent center. It's like this: You don't need

* From Carry On, a Magazine on the Reconstruction of Disabled Soldiers and Sailors.

any more medicine, the hospital's crowded, and they need your bed. So off you go to the camp nearest your home, into the center for almost well men, where you will be on duty until the doctors are sure you are cured. Orders are not to discharge a man until his maximum restoration is secured. Know what that means? Just this—until you've all the motion back into that elbow and hand that they can help you get into them; until that limp of yours is forgotten and until you're so full of 'pep' that you're crazy to get out and go to work or go to school. Trying not to turn out any loafers from this man's army."

"But I want to go to an automobile school like this one."

"Sure boy, and you will. It's all under one educational system and you'll find a school just like it in the center or up at the base hospital which you can attend."

Therefore, you see why Private Hicks wasn't downhearted. He wasn't to be discharged yet, 'tis true, but he was going nearer home. The "docs" were going to keep on "fiddlin' with his mit until she worked." He could go to school. All this, and still he was through with hospitals.

At Camp Dix, after being examined at the base hospital, Private Hicks was assigned to Platoon 4, Company 2, Convalescent Center. He had trained at Camp Dix before going to France, but this was an altogether different kind of a place.

Still the same old company streets and the same old barracks on the outside! But when he entered the building where Company 2 was housed he thought he was in an up-to-the-minute Y. M. C. A. hut. Downstairs, no beds, but a regular club room with billiards and pool, checkers and chess, hand polo, card tables, books and magazines, and a real piano. The bare walls were decorated and color everywhere gave the impression of a homey room with a real log fire in a big fireplace. Many of the men in the place seemed pretty badly banged up, but all were apparently happy.

The sergeant took Hicks upstairs and pointed out his bed. Same old barrack room there, but its proximity to the club room below robbed it of some of its barrenness. A yellow-topped corporal sitting on the next bed was primping as though he expected a visit from his Jane.

"Just in time for the party, new-comer!" by way of introduction from the corporal.

"What party?" asked Hicks.

"Never mind, hurry and get into your dress suit and you'll soon find out."

Supper was late and Hicks was hungry. When the call finally came, he went down with the bunch. Six other men had just arrived and they were all assigned to a table. But it wasn't like the old-time mess; this was a banquet hall.

"Attention!"

Like a machine the 115 men sprang to their feet.

A general, two colonels, several captains and lieutenants had entered. After they were seated at the head table, the men resumed their places.

"Who's the general?" whispered Hicks to his neighbor.

"General Scott, of course, and that's Colonel White and Colonel Berry with him. Big doings tonight."

"What is it—the annual banquet?"

"Where do you get that stuff—annual? Somethin' doin' every night here."

Just then the band—Convalescent Center, Camp Dix, painted in big letters on the bass drum—struck up a lively tune and all joined in a song which was a parody on "There was an old soldier who had a wooden leg."

Such eats! But Hicks soon learned that good eats were part of the cure in this center.

When they reached "cakes and cream" a huge cake was brought in by four K. P.'s and placed in front of General Scott. The general then arose and with his great sword carved the thing—yes, carved it into 125 pieces.

When the cigars were passed the talk-fest began. Funny, of course, for every day hundreds of new stories are created in the army—real stories, too. But when the General talked it made a fellow feel just like going home and being a better man than he ever was before he entered the army, no matter what his trouble.

Maybe the Hun got your arm or a part of your face or left a piece of shrapnel in your lung, *but he didn't get your goat.*

This was the spirit of that banquet, and next day when Hicks met Captain Jones he received more of the same spirit.

"You're in Platoon 4 today, my man," said Captain Jones, "but just as soon as we find you have strength for the gym work and shop work, we will boost you through Platoon 3 and into Platoon 2. When that stiff joint is as loose as we can make it and those fingers, which are not really paralyzed, are once more working, into Platoon 1 you go, and that means 'discharge within forty-eight hours.' When you leave here you'll be able to go to work, or, if you can't return to your old job, the Federal Board will train you for one you can do."

"But I want to go to the automobile school like the one I was in at Walter Reed," said Hicks, who didn't find it at all difficult to talk back to this good-natured captain.

"All right, if you were able to do that over there, we will have Major Davison examine you today, and if he says you're fit, then Platoon 2 tomorrow."

Next day Hicks was promoted to Platoon 2. This allowed him to take part in many of the rougher games; also he was given forty-five minutes of good stiff physical exercise twice a day—but not until the end of a week—graduated exercises until then. And, best of all, he spent three hours morning and afternoon in the auto school. Many of the men were taking this course; not only men from the center, but a number who were able to attend from the base hospital. In the evenings he would often go to the base hospital lectures on motor mechanics and other subjects which the educational officer arranged for the men. In fact, it seemed as if this educational officer and the Y. M. C. A. director and a lot of other people were making them go to school all the time, and yet it was so interesting and was fixing them for better jobs when they got out, so that none seemed to mind it.

The doctors had their innings, too. Every day the elbow and hand were baked and then a sergeant who knew his business would rub it and bend it and work the fingers until Hicks could see that it "was comin' along," as the sergeant said. For awhile he was sent to the base hospital every morning for special treatment, but he didn't mind this as long as he still lived in the center.

One day about two months after his arrival, he was under the chassis of a car replacing the differential. He was hard at work and very interested—but not too absorbed to hear Professor Townsend, the "Y" instructor, say: "Look at that man Hicks under there using his game arm and hand. Guess Captain Jones will be firing him in a few days."

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The first permanent memorial to the soldiers and sailors of Newark, N. J., was established in the two free beds in the Presbyterian Hospital of that city which were dedicated on November 22, and November 29, 1918, respectively.

## SANITARY SURVEYS OF INSTITUTIONS*

### Spirit which Should Govern a Survey—Points in Sanitation —Gaining the Cooperation of Executive Heads and Subordinates

By C.—E. A. WINSLOW, Anna M. R. Lauder Professor of Public Health, Yale Medical School, American Museum of Natural History

The application of scientific method to the affairs of daily life makes progress much more slowly than most of us would wish; and the principal obstacle which has delayed its advance is the indiscretion of its would-be exponents. The very name "efficiency" has become a byword and a hissing because efficiency has been so often unwisely sought on a basis of partial knowledge and with total neglect of the human factor in production. "Scientific management" has come near to being discredited for similar causes. The word "survey" in many minds summons up only images of turmoil and alarm, because so many surveys have been conducted by those who were experts only in the art of publicity and who were seeking, not the facts, but merely colorable evidence for the condemnation of the person or the institution which happened to be the victim of the moment.

Yet the fundamental principle of the "survey" is a sound one. Those who are immediately concerned in the conduct of any business are seldom trained in the methods of scientific investigation, and even if they are, the very closeness of contact, the daily familiarity with development, militates against a broad and well proportioned view of its relations. It is difficult for them to see the wood for the trees; the cumulative effect of gradual changes, instantly perceived by an outsider, is lost as the alterations in members of one's family, obvious to a visitor, are unnoted at home.

In order that an investigation of this kind shall be of service, however, it must be constantly dominated by three motives. It must be scientific; it must be constructive; and it must be cooperative.

It would seem perhaps unnecessary to emphasize these essential characteristics of a successful survey if they had not been so flagrantly ignored in conspicuous instances in the past. Surveys should deal with measurable facts, expressed in quantitative terms, so far as possible, and checked up by constant considerations of costs and of probable return. They should be governed throughout by a consideration of practical results to be obtained by concrete improvements. There is nothing at all gained by mere faultfinding. Above all they should be carried out in intimate and friendly cooperation with the administrators of the institution surveyed. There are two perfectly good reasons why a study carried on from the external standpoint only is likely to be worse than useless. In the first place, while the scientific training and the detachment of the surveyor is of supreme value, it must always be checked up by the practical experience of "the man on the job." No investigator, however well equipped, can grasp all the local variants in a particular problem. What seems at first a mistake may in the special case be the best possible way out of peculiar difficulties. Really valuable plans for reconstruction must be the joint work of the science from without and the experience from within. Again, even if the investigator could by some miracle hit on the right solution for each problem, his report is of little use unless it is put in practice. The superintendent or other executive who is to carry it out will ultimately have the fate of the plans in his own hands. If his cordial sympathy has not been secured, if the plans have not in large measure become *his* plans, he can demonstrate their impracticability after the investigator has departed without turning his hand over and without even knowing how his prejudices have worked themselves out. A short period of bitterness and recrimination—then a comfortable relapse to the *status quo* with another black mark against the expert—that is the only result of a survey conducted in the spirit of the inquisition.

With this word of warning as to the spirit which must govern a survey if it is to be of value I may pass to a brief review of some of the principal points which should be considered in sanitary surveys of such institutions as those which are of special interest to the members of this section.

Most of the points covered in such a survey fall under four main heads, air conditioning, cleanliness, toilet facilities, and preparation and service of food, and they may conveniently be discussed in that order.

In many cases a special study should also be made of illumination, with regard to the adequacy of general lighting and freedom from glare. In my own surveys I have always called in special experts to make photometric measurements and determine angles of glare; an excellent general description of the method employed in such studies may be found in a bulletin on The Hygienic Conditions of Illumination in Workshops of the Women's Garment Industry.[1]

#### AIR CONDITIONING

Exhaustive investigations have shown that the evil effects of bad air are due not primarily to any excess of carbon dioxid or "morbific matter" or to any lack of oxygen, but to excessive heat and humidity.

The principal symptoms experienced in a badly ventilated room are due to the influence of warm still air upon the circulatory system. Such an atmosphere causes a rise in body temperature, and pulse rate, a fall in blood pressure, a general feeling of discomfort, and a marked disinclination to physical exertion; while it injuriously affects the mucous membranes so as to constitute an important predisposing cause of respiratory disease. Any temperature over 70° (except where the air is in motion) is lowering to efficiency and injurious to health. The installation of a $75 system of ventilation in the operating room of the telephone exchange at Cambridge, Mass., was followed by a reduction in winter absences from over 4.5 to 1.9 percent of the force employed.

One of the most important steps in a survey is to obtain an accurate idea of temperature conditions. This should be done by installing automatic thermographs in the important rooms and supplementing them by observations of temperature and humidity made with the sling psychrometer.

Carbon dioxid observations should also be made with the Petterson-Palmquist machine or some equally reliable apparatus. Carbon dioxid is not in itself harmful but it is an excellent measure of the change of air necessary to avoid overheating and the accumulation of unpleasant odors.

Parallel with these analytical determinations, which must, of course, be made in considerable numbers to gain an accurate idea of existing conditions, there must go a careful study of existing facilities for heating and ventilation and their operation. Radiation surfaces should be considered and, if an automatic regulating system is in

*While this article, originally published in the Bulletin of the American Home Economics Association, applies to a wide variety of institutions, so much of it is pertinent to hospitals that it is here reproduced with slight excisions.

[1] Schereschewsky, J W., and Tuck, D. H., U. S. Pub. Health Service, Bul. 71.

operation, individual thermostats should be carefully tested. They will very frequently be found in an extraordinary state of disrepair, unjustly discrediting a system which when in order will operate with reasonable precision.

It may generally be assumed that when a room is so crowded that the floor area is less than 200 square feet per capita some sort of special ventilation will be required. Either a fan exhaust of 30 cubic feet per capita or windows open to the extent of 0.25 square foot per capita will usually be necessary in order to ensure a reasonable air change.

If there is a mechanical ventilating plant the registers should be measured and their per capita area calculated. This area should equal about 0.1 square foot per capita. In one case studied by me 31 percent of the register areas in an office building were inadequate and 54 percent unnecessarily large. The air flow at the registers should be measured by means of an anemometer and checked up by measurements of the flow in the main ventilating ducts and studies of the rated capacity and actual performance of the fans. Sometimes the fans will be found to be of a totally inadequate type. Sometimes they can be made effective by simple changes in pulleys or motors which will permit of an increased speed. Sometimes trouble arises from the fact that the engineer is saving coal by operating the fans at reduced speed or not at all. Sometimes the fan is doing its part, while wrong proportioning of register areas and the lack of volume dampers distribute the pressure so faultily that the air is changed too rapidly in one section and too slowly in another. In a large dining hall studied by me the exhaust at the end of the room near the fan was 26 to 33 cubic feet per capita, a very satisfactory value, while at the other end of the room it was 7 to 9 cubic feet.

Kitchens and serving rooms present very pressing problems of their own and almost always require special local exhaust ventilation to protect the workers from excessive heat and to prevent odors from permeating the rest of the building. The remedy to be applied in the shape of provisions for necessary artificial air supply can, of course, generally be worked out only by a properly qualified expert. At times, however, the solution of a ventilation problem is fairly simple. I remember, for example, a hospital in Chicago, which had been greatly troubled by odors in the wards, where I found that the fresh air intake on the roof opened just over the soil pipe of the plumbing system and drew its foul air directly into the ventilating ducts.

### CLEANLINESS

The general tidiness of buildings and grounds should, of course, be carefully noted, special attention being paid to the types of organic filth (manure, garbage, and the like) which may breed flies and constitute a menace to health. If opportunity permits it may be well to install large fly traps at various points about the grounds and estimate the number of flies caught in definite periods in order to indicate the seriousness of this particular nuisance.

The extent of floor area to be cleaned within the building should be estimated, the character of the floors and their condition noted, and the routine of the cleaning force observed. Six cents per square foot per annum is a reasonable cleaning cost, but worn wooden floors and complicated furniture materially increase this figure. It will frequently be found that the lack of centralized organization militates against efficiency. I know a hospital, for example, where the cleaning of wards is under the direction of the superintendent of nurses, and that of tunnels and corridors under that of the housekeeper, while the dietitian hires and discharges the servants who have to do with the preparation and service of food.

The commonest fault found in cleaning is the use of dry sweeping and dry dusting methods, which appear to survive with persistent success all assaults which have been made upon them. In one such case I found 485,000 dust particles per cubic foot of air in the room before dusting and 694,000 when dry dusting was going on, an increase of 43 percent. The use of sweeping compounds of some sort on floors and the replacement of feather dusters by cloth dusters treated with oil should be insisted on.

The replacement of wooden floors by composition or tile floors of approved type may often effect a saving in cleaning bills which will correspond to a very profitable rate of interest on the original investment.

### TOILET FACILITIES

The toilet facilities provided both for patrons and for employees should be scrutinized with care, both in regard to adequacy and sanitary character.

The usual standard fixed by good practice, and in some communities by law, calls for one toilet seat for every 20 to 25 employees in a factory or office building. A much lower proportion than this causes discomfort and possible injury to health and leads also to a considerable waste of the employer's time. For example, in an office employing a large number of women clerks and with only one toilet seat for each 39 female employees I had a census made of the number of women entering the toilet rooms during each fifteen minute period. The number of persons entering a toilet room provided with only 36 seats rose to an average of 16 to 25 per minute for fifteen minute periods before luncheon and before closing time. My inspector reported that the flush tanks sometimes had not time to fill between flushings. Most significant, however, was the fact that the maximum crowding did not occur during the lunch hour or after closing time but began a full half hour before. The clerks who had evidently become accustomed to find the toilet rooms crowded had formed the habit of taking time by the forelock.

The character of the toilet rooms is of very real importance in connection with their possible rôle in the spread of communicable disease. The first essential is that they should be more than amply lighted—the second that they should be fitted up with smooth and impervious walls and floor so that they can be kept clean. A dark, dingily finished toilet room is quite certain to be a dirty and a dangerous one.

It is most important for obvious reasons that ample facilities for washing the hands, including liquid or powdered soap, paper towels, and, if possible, warm water, should be provided in connection with all toilet rooms. It is also desirable that opportunities for the handling of the same object by different persons should be reduced to a minimum, particularly after the toilet has been used and before the hands have been washed. Automatic flush tanks or those operated by the raising of the toilet seat are therefore desirable, and the locking and unlocking of toilet compartment doors by a footlatch may be recommended as a counsel of perfection.

The provision of an adequate supply of drinking water is a point which should, of course, receive attention in any institution. It would hardly be necessary to point out the importance of securing a water supply of initial purity and providing for its consumption through some means other than the common drinking cup, if it were

not still so easy to find common drinking cups in use—particularly in colleges and hospitals, according to my personal experience. Drinking water if it is cooled should be provided in containers in which it does not come in contact with the ice, as the additional pollution that comes from the handling of ice to be dropped into water is a wholly unnecessary risk.

A word should be said in this connection as to the provision of locker and lounging rooms for employees. These should be adequate, well lighted, attractive and orderly, particularly in connection with kitchens and dining halls where the self-respect of the staff is an essential factor in cleanliness and safety. Yet I have known of a rather elaborate dining hall with a basement locker and lounging room for ninety colored waiters having only about two hundred square feet of free space between the rows of lockers, and with a dark interior locker and lounging room lighted by one 15-watt lamp for the white employees.

There are many good types of metal lockers now on the market and the inconvenient and dirty wooden lockers should be replaced as rapidly as possible. For men expanded metal lockers are perhaps preferable on account of the better ventilation which they offer, but women prefer solid steel lockers on account of their freedom from dust. Lack of provision of lockers large enough for women's hats is a source of inconvenience and disorder in many offices. It should be noted that the price of steel lockers varies widely and some of the more expensive types are scarcely worth the extra cost involved.

### PREPARATION AND SERVICE OF FOOD

The equipment provided and the methods in use for the preparation and service of food, of course, require a particularly careful study on account of the sanitary and hygienic problems and the considerable financial considerations involved.

Storage facilities should be examined in detail and special attention paid to provisions for refrigeration. It is surprising to find how many large lunch rooms and dining halls are provided only with wooden lined ice boxes often imperfectly cooled by ice. In a large hospital I had automatic thermographs installed in such ice boxes and found a meat room ranging between 41° and 47°, and usually over 44°, while a cooked meat and vegetable room was usually between 44° and 50°. These figures were obtained in May and the condition of food kept in these rooms in August must have been most dangerous. The installation of a brine or ammonia coil refrigerating system may often prove a real economy, particlarly where ice cream is being manufactured.

The floor and walls of kitchens and serving rooms should not only be of impervious material but light-colored, and such rooms should be particularly well lighted. Cleanliness is very largely dependent on external conditions, and it is impossible to secure high sanitary standards in a dingy kitchen with worn wooden or cement floors and dilapidated walls.

From the standpoint of equipment, the commonest defect I have found is the lack of a modern dishwashing machine. The old-fashioned tank machines do not rinse the dishes in clean water and are cumbrous and costly to operate. I believe that as a rule one of the newer patterns of washing machine will prove not only more sanitary but much more economical in operation.

The general cleanliness of handling of food and its protection from dust and flies should be noted. Kitchens and serving room should, of course, be free from rubbish and outdoor clothing, and pet animals and vermin should be absent. Special attention may well be paid to the method of handling waste materials, the condition of garbage cans, and the presence or absence of covers.

The extent to which it is necessary that food should be handled in preparation and service is a very important and difficult one. Human contact is generally more dangerous than any other kind of contamination, and I am in hopes that members of this association may some day conduct a detailed investigation, by time studies, to determine just how much direct use of the hand is really necessary in rapid service. It is common in lunch room service for even slices of ice cream and, of course, meat and potatoes, to be placed on the plates with the fingers.

Until the handling of food is much less common than at present I consider special provision of facilities for hand washing, with hot water, soap, and paper towels, an essential part of kitchen and serving room equipment. Furthermore the systematic medical examination of kitchen and serving room and dining room employees is a most important measure of protection if it can possibly be attained. In any large group of employees carriers of the germs of diphtheria, tuberculosis, syphilis, and typhoid fever will occasionally be found, and one cough or a single touch with an unclean finger may infect scores of patrons. New York City has adopted an ordinance providing that no person affected with communicable disease shall be permitted to engage in the preparation of food for the public, and compelling all such food handlers to submit to an inspection when required. Montclair, New Jersey, has gone even further in requiring that a certificate of examination shall be filed as a regular routine every three months by all food handlers in public places, and the Board of Health will furnish, for a nominal fee, certificates to servants employed in private families.

The general character of the food purchased should, of course, receive attention, and particular study should be made of milk and shellfish, the two foods which are most commonly responsible for outbreaks of communicable disease. It cannot be too strongly emphasized that no milk is really safe unless it has been pasteurized by the holding system (heated to 140° F. for twenty minutes) and such milk should show less than 50,000 bacteria per cubic centimeter. I recall recent cases in my own experience in which the milk used in a university dining hall averaged 770,000 bacteria per cubic centimeter and that used in a hospital, 1,200,000 per cubic centimeter.

Finally, some study should be made of the dietary values of the food supplied, of its protein content, and of the extent to which fresh fruits and vegetables are represented in the diet. An excess of meat is an exceedingly common fault in lunch room and dining hall menus, accompanied by a lack of salads and attractive desserts. The only remedy in such cases is the employment of a trained dietitian to superintend the selection of the food to be served.

### THE PRESENTATION OF RESULTS

After the survey has been completed the most difficult work of the investigator begins. The engineering part, the determination of facts and remedies, is comparatively simple. It is the psychological problem, the enlistment of active interest in proposed plans of reform, that requires almost superhuman skill. The men at the top of any large enterprise can usually think broadly along lines of efficiency and economy. The men in immediate charge of departments are often of a different caliber. They are commonly conservative and suspicious of novelty, and it must be constantly borne in mind that any suggestion of change is likely to be construed as a criticism and, at least subconsciously, resented. Yet it is these subordinates who hold the success of the plan in their hands.

First of all, then, the survey itself must be conducted in intimate cooperation with these subordinate executives. Each defect and each suggested change should be taken up with them. If they can only be made to feel that the survey is intended to help them, to secure the facilities they need and deserve, the fight will be almost won.

The report of the survey should be presented in clear and compact form, with graphs and photographs to illustrate important points and it should always be preceded by a very brief digest, setting forth existing conditions, criticisms, recommendations, costs of savings, and advantages.

Finally, as a last precaution, before the report is finally turned in, I always secure a conference of the higher executive and all subordinate executives affected, and go over the criticisms and recommendations point by point so that I may either secure a general approval of the principles involved and a general endorsement of the accuracy of the facts presented, or have an opportunity of joining issue with critics in open meeting. This procedure, which I learned through association with Dr. Hollis Godfrey, president of the Drexel Institute, and one of the ablest scientific management experts in the country, has proved of incalculable benefit.

I cannot close even this brief paper without expressing my appreciation of the opportunity of speaking before the Home Economics Association, because of my appreciation of what its present members are doing, and, above all, of what its founder did, for the cause of scientific living. At the Fifty Year Memorial meeting of the Massachusetts Institute of Technology a fortnight ago, one name, among all the great names in the history of the institute, was cheered longer than any other, the name of Ellen Richards. It was my privilege, as it was that of many of you before me, to be a pupil of Mrs. Richards in the flesh; but all of us who are working for the better ordering of the affairs of daily life are, and for generations will be, her disciples in the spirit.

## ORGANIZATION OF BASE HOSPITALS

### United States Public Health Service Acts Promptly After Act of Congress—An Easily Expanded Organization Required

Most satisfactory progress has been made by the United States Public Health Service in taking over and putting in operation the base hospitals at former army camps and in providing additional facilities for the treatment of disabled members of the military establishment.

Four of the base hospitals have already been opened for the reception of patients and three more will be ready very shortly. By the end of April it is confidently expected every one of them will be doing its bit in returning disabled soldiers, sailors, and marines to civil life wholly reconstructed.

The base hospital at Houston, Tex., was put in operation on March 15, just two weeks after Congress directed the Public Health Service to take up this important work. The hospitals at Greenville, S. C., and Palo Alto, Cal., were opened April 1, and the one at Augusta, Ga., on April 2. The Jacksonville, Fla., Montgomery, Ala., and Alexandria, La., hospitals are almost ready to open.

At the state university of Iowa, Iowa City, arrangements were made to care for three hundred soldiers from that state in ideal quarters. The necessary equipment is being assembled and in a very short while the institution will be in operation. A large building was secured at Waukesha, Wis., which will be transformed into a hospital for three hundred patients. The necessary improvements and changes in the structure are now being made.

Until the Public Health Service is able to form an accurate estimate of the number of patients to be admitted to the hospitals, skeleton organizations, easily elastic, will be maintained. At first there will be only a comparatively small staff of physicians, nurses, and attendants. Arrangements have been made, however, to expand this organization on short notice. A list of officers in the medical reserve of the Public Health Service, has been prepared in the order in which they will be called. Through the cooperation of the American Red Cross, where nurses are being recruited, a similar list of nurses has been prepared. The plan of operation has been so carefully and efficiently prepared that there should be no appreciable delay in calling staffs sufficient to care for the maximum of 1,500 in each of the base hospitals. It now seems more than likely, however, that the expansion in the hospitals will be gradual.

Generally speaking, patients will be assigned to hospitals nearest their homes. It may be advisable later to change this policy as the necessity for special treatment might require centralization of some of the more unusual ailments at other government institutions where better results might be expected.

The following order has been issued by the Surgeon-General of the United States Public Health Service:

"In accordance with Public Act 326, approved March 3, 1919, entitled 'An act to authorize the Secretary of the Treasury to provide hospital and sanatorium facilities for discharged sick and disabled soldiers, sailors, and marines,' you are directed to admit to any relief station of the Public Health Service any discharged sick or disabled soldier, sailor, or marine army or navy nurse (male or female), provided that the disability for which he seeks treatment is due to illness or injury incurred previous to discharge from the military forces.

"When a reasonable doubt exists whether the disability or injury occurred before discharge, the applicant should be placed under treatment and a statement of the case submitted direct to the Chief Medical Advisor, Bureau of War Risk Insurance, for decision as to his eligibility.

"The applicant must present evidences of illness or disability at the time of his separation from the service, either by official discharge, or his hospital record. When this evidence cannot be had immediately and the seriousness of the applicant's conditions does not warrant delay, he may be admitted and his papers secured as early as possible. If the applicant has a certificate of discharge without statement of any disability, the Officer in Charge may consider whether the disability for which he claims treatment is due to a reactivation of a condition for which he had previously received treatment while in the military service, or if the present disability can be reasonably connected with a former injury or disease incurred in the military service.

"All persons discharged from the military forces applying for medical relief under this act, shall when able, and unless they have previously done so, fill out Form No. 526. The medical officer shall fill out Form No. 504, both forms being forwarded promptly to the Chief Medical Advisor, Bureau of War Risk Insurance."

This order is calculated to bridge the gap until all of the hospital facilities have been made available. It will also serve the purpose of caring for a great number of men, not seriously disabled, who reside in communities far removed from any of the hospitals. At present 118 of these relief stations have been put into operation and each has made ample provision to meet this new call for service.

A happy man or woman is a better thing to find than a five-pound note. Their entrance into a room is as though another candle had been lighted.—Robert Louis Stevenson.

## CERTAINTY IN STERILIZATION

### Possibility of Error Reduced by Gauge to Record Time and Pressure of Sterilization and a Simple Method to Call Attention to Unsterilized Packages

By A. R. WARNER, M.D., Superintendent, The Lakeside Hospital, Cleveland

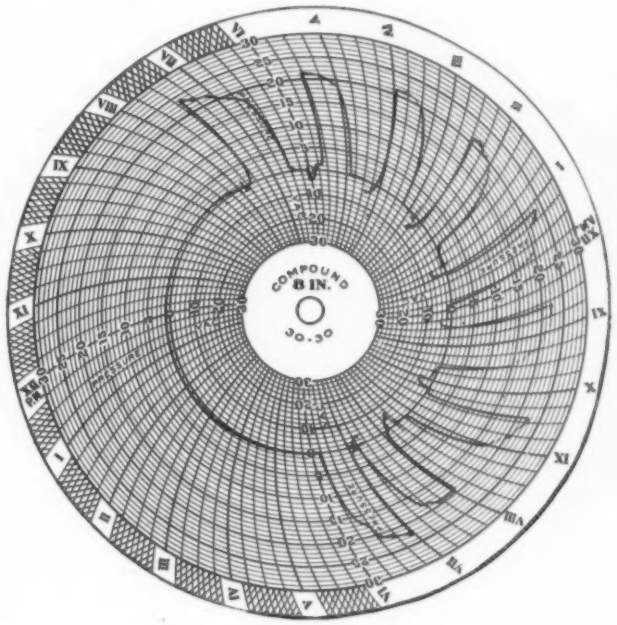
In the process of preparing sterile linen for operations, there are many possibilities of error. Several years ago the thought occurred to me that perhaps error in this process accounted for a certain number of those cases of infection following operation when the nature of the case seemed to indicate that infection should have been prevented. Study was therefore given to the possible sources of error and their elimination.

The first process to be carried through without error is the wrapping of the linen to be sterilized. In most hospitals this is done in the operating room by nurses under the direction of the head nurse, and all wrapping is carefully done. It is quite impossible, however, for the nurses always to detect broken threads and small holes in the wrapping material. It is therefore advisable that all wrappings be with two layers of cloth, each of which are apparently intact. Two layers are much more effective in keeping out fine dust than one. These covers should be carefully pinned and placed so that they will not readily become loosened in the subsequent handling. The linen wrapped must be absolutely dry. Wet linen condenses so much steam that the packages become almost soaked throughout with water in the process of sterilization. This markedly delays the penetration of the heat and the usual vacuum drying after sterilization scarcely dries the surface.

It is possible to sterilize linen by one sterilization in the autoclave, but this requires a pressure of 115 to 125 pounds actually maintained from twenty to thirty minutes and there must be added to this the time necessary to build up the pressure and the time given to drying. It takes more than an hour for most sterilizers to carry through a load. Many times this sterilization is done by orderlies and other attendants not absolutely reliable. To these there will come the temptation to hurry the last load before dinner or the last load of the day, and this sterilization may not have been effective. To obviate this difficulty, ordinary recording-steam-time pressure gauges were put on the autoclaves at Lakeside and connected with the inner chamber. In this way a graphic record of the pressure in the autoclave for the full twenty-four hours is recorded. These gauges are locked to make tampering impossible, and each day a responsible person changes the dial and notes whether or not all the sterilizations of the day before were effective. In fact this dial is watched throughout the day, for those who sterilize know that the record of each sterilization must comply with the rule.

All that this recording gauge, or in fact any gauge, will show is the pressure attained and the time this pressure was sustained. It will not show the infiltration of steam into the packages. It is well known that a piece of ice carefully wrapped may be carried through a routine sterilization and come out a much smaller piece of ice, but not more sterile than it was when it went in. A large bundle of damp linen will resist penetration sufficiently to interfere with proper sterilization of the center of the bundle. This error can be largely eliminated by wrapping for sterilization only dry linen. It is possible, however, to interfere with the effective sterilization of dry linen if the packages are of considerable size and the carrier packed too tight; this, however, requires needlessly large packages and most careful packing to accomplish. This danger may be checked at any time by the use of "Sterilizer Controls." These little tubes contain a tablet which melts at 118° centigrade. If this tablet is melted in the process of sterilization there is no question whatsoever about the efficiency of the process. These tablets should be used sufficiently often to check up the size of the packages and packing.

The linen comes from the sterilizer sterile, but it must be kept sterile until used. It is not possible to keep damp packages of linen sterile. The capillary currents in moist cloth will carry infection from dust and contact through two wrapping layers, and theoretically at least, might carry infection to the very center of the bundle. If the




Graphic record made by recording gauge.

linen goes into the sterilizer perfectly dry and sufficient time under vacuum is given, it will come out practically dry, but so often a small defect in the sterilizer prevents the securing of the proper vacuum, and the linen comes out too wet to be exposed or handled. To meet this contingency at Lakeside, a sheet-metal drying oven was built next to the autoclave. A liberal supply of steam pipes in this give it considerable drying capacity, and linen may be transferred immediately to this oven if it comes from the sterilizer in any way damp. This oven is now running all the time anyway to dry the renovated gauze, so that it is always instantly available.

These precautions seem to provide fairly well for sure sterilization if the linen actually goes through this process. It is possible, however, that a package of linen for sterilization may somehow get mislaid, either in the operating room or in the sterilizing room and find its way to the operating table unsterilized. To avoid this, experiments were made to find some controls cheaper than the commercial tablets to test the sterilization of each package. It was found that the commercial indelible inks which write red when fresh are entirely satisfactory; inks which are a pale gray when fresh can also be used by the addition of coloring matter. A small scrap of paper dated the date the package was prepared for sterilization is included in each package of linen. On the inside of the package this writing will keep bright red for several weeks at least, if not sterilized. In the process of steam sterilization, this ink changes to black, and there is

a limited amount of infiltration in the paper which readily distinguishes the ink blackened by steam sterilization from the same ink blackened by exposure to light or dry heat. It is possible, therefore, for the surgeon to know positively that each package of linen has been through the sterilizing process. At Lakeside we used this check for almost a year before an unsterilized package came to the operating table. The red date immediately attracted attention and the package was discarded. No explanation of where or why this package escaped sterilization was obtainable, but the fact remained that it was not sterilized and its use in the operation would have been a menace to the patient.

This date slip with the red silver ink is so inexpensive and simple that it is worthy of extensive use. The expense of a commercial control for each package has curtailed their general use for this purpose. While the control tablet does not melt under 118° or sterilizing temperature, it is likely that the ink will be blackened by temperatures well under this. It is necessary, therefore, in using the ink slips to be certain by the time-recording gauge, or otherwise, that each load which went through the sterilizer was really sterilized.

## GOVERNMENT HOSPITALS ASK FOR TECHNICAL MEN

### Reconstruction Work Gives Employment to Officers and Enlisted Men With Special Knowledge—Transfer Permitted by the War Department

Officers and enlisted men are needed by the division of physical reconstruction of the War Department for administrative and instruction work in hospitals. Men who have had technical, trade, commercial, or agricultural training are especially desired as instructors in the curative workshops.

Authority has been granted by the War Department to transfer to the reconstruction division any commissioned or noncommissioned officer or enlisted man from any branch of the service, who is no longer needed in his present assignment and who desires the transfer.

These men will be sent to hospitals functioning in physical reconstruction. The program is now in operation in twenty-five hospitals with an enrollment of 10,000 disabled soldiers in bedside and ward handicrafts and studies, technical and trade work in shops, agricultural work in hospital farms and gardens, stenotype, typewriting, other commercial work, and academic work.

### While the Clocks Tick

Tick-tock, tick-tock! Day and night the clocks sing time away—the grandfather clocks along the wall, with their deep, steady click; the cuckoo clocks with their fantastic carvings and their punctual feathered tenants, and the tiny, dainty watchlings, no larger than a coin, fashioned to encircle milady's supple wrist.

It looks like a bit of old Switzerland, yet it is France—the little clockmaking town of Cluses in Haute-Savoie, not far from the Swiss border. Here is the National School of Clockmaking, wherein many of the war's maimed are now finding employment. This intricate and fine art is being acquired by men who by reason of their wounds have been incapacitated for heavy work. A new annex exclusively for "mutilés" has been built with funds furnished by the American Red Cross.

There the "mutilés" will work, finding new interest in the things that shape themselves beneath their delicate tools, while the clocks tick steadily on, as if to say "Time flies! Time flies! Time flies!"—*Red Cross Bulletin.*

# HOSPITAL, MEDICAL AND SPECIAL MEETINGS

## RED CROSS CONFERENCE IN FRANCE

### Leading Experts of World to Formulate Extended Program of Red Cross Activities in Interest of Humanity—Second Conference to be Held After Official Declaration of Peace

To prepare a program which will relieve suffering and combat disease in the general interest of humanity, the Committee of Red Cross Societies held a conference of leading experts of the world at Cannes, France, on April 1. The meeting was attended by foremost specialists in various fields, who represented France, England, Italy, Japan, and the United States.

This first conference was merely preliminary on the part of the Committee of Red Cross Societies to formulate and to propose to the Red Cross societies of the world an extended program of Red Cross activities in the interest of humanity. The chief question considered was that of the organization of the International Council and Bureau of Hygiene and Public Health, which is to handle the work undertaken in connection with the prevention of epidemic disease, tuberculosis, venereal disease, and child welfare. As the specialists in attendance were recognized authorities on these subjects, the program which they drew up will probably deal with the latest and best methods of relieving suffering and combating disease.

The program will be submitted at a later conference of all Red Cross Societies to be held in Geneva thirty days after the official declaration of peace. The call for this later conference was issued February 13 by the International Red Cross at Geneva. The Committee of Red Cross Societies was formed in the earlier part of March, with headquarters at Cannes and administrative headquarters at No. 2 Place de Rivoli, Paris. It is composed of representatives of Red Cross societies of France, Great Britain, Italy, Japan, and the United States, with Henry P. Davison, formerly chairman of the War Council of the American Red Cross, as chairman.

This issue of THE MODERN HOSPITAL goes to press before a report of the conference can be received, and we are therefore unable to publish the list of those who attended. Among the representatives to whom invitations were issued, however, were the following:

*France.*—Prince Paul Emile Roux, director Pasteur Institute, Paris; Dr. F. Widal, physician to Hôpital Cochin, Paris; Major Edouard Rist, Service de Santé, France; Dr. Calmette, Pasteur Institute, Lille, France.

*England.*—Sir William Osler, regius professor of medicine, Oxford University; Sir Walter M. Fletcher, secretary of medicine, Research Committee; Col. S. Lyle Cummins, advisor in pathology, B.E.F.; Sir Robert Phillips, Edinburgh; Sir Arthur Newsholme, London.

*Italy.*—Dr. Ettore Machiafava, University of Rome; Lt.-Col. Aldo Castellani, University of Naples; Dr. Giuseppe Pastanelli, University of Rome; Col. Caesar Baduel, Florence, Italian Red Cross, Rome.

*Japan.*—Dr. Ryotaro Inaba, director of hygiene laboratory, College of Medicine; Dr. Kiyoshi Shiga, professor Imperial Institute for Infectious Diseases, Tokio; and Dr. Hideyo Noguchi, Rockefeller Institute, New York.

*America.*—Dr. William Henry Welch, director School of Hygiene and Public Health, Johns Hopkins University; Dr. Simon Flexner, director of laboratories, Rockefeller Institute for Medical Research, New York; Dr. Hermann Michael Biggs, Public Health Commissioner, New York State; and Dr. Edward Robinson Baldwin, director of Edward L. Trudeau Foundation, New York.

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## AN INTERNATIONAL CONFERENCE ON THE REHABILITATION OF THE DISABLED

### Early and Intensive Training—Standardization of Artificial Limbs—Special Attention to Tuberculosis—Extension of Work to Industrially Crippled

By DOUGLAS C. McMURTRIE, Director, Red Cross Institute for Crippled and Disabled Men, New York

The retraining of disabled men for lives of self-support is no longer in the experimental stage. The belligerent nations have found it wise and profitable to salvage the remaining abilities of their disabled men, and each has determined a definite course of action for physically reconstructing and vocationally retraining disabled soldiers.

All the national programs are different, and it will be found that the same problem has been handled in different ways, with varying degrees of success. With the problem now confronting America of working out the most satisfactory methods of restoring disabled soldiers to lives of usefulness, what could be more beneficial than a meeting of the experts of the various countries to exchange experience upon the vital points of rehabilitation?

With such a purpose in mind, the Red Cross Institute for Crippled and Disabled Men, acting in cooperation with the Red Cross Institute for the Blind, invited to New York for an unofficial conference the leaders in the work in the allied countries. Almost all answered the call, notwithstanding the pressure of work immediately following the armistice, with its sudden increase in the number of military discharges. It was felt that such a gathering of eminent foreigners would stimulate a constructive public interest in the rehabilitation of the disabled.

The scientific sessions were of great interest and profit to those active in the field. Upon the presentation of each point in the experience of the different countries, there would follow discussion of the divergences of practice.

Space does not permit of a complete summary of the proceedings, but a few unanimous conclusions will serve as high lights in the scientific sessions of the conference.

1. Rehabilitation must be begun very early, and a plan for the soldier's future must be worked out with him soon after his injury. No period of idleness must be allowed to set in before a man is started on the road to self-support.

2. Under no circumstances must a man's pension be reduced because he is industrious and earning a good livelihood. Compensation for both specific and non-specific disability, resulting from either wounds or disease, should be assessed on physical condition without reference to wages.

3. Courses of reeducation should be intensive and as brief in duration as is consistent with the successful holding down of a prospective job. Men should not be permitted to contract, during lengthy periods of training, the habit of dependence on the government for maintenance.

4. Since tuberculosis constitutes one of the major problems of rehabilitation, intelligent and adequate handling of it can only result in much benefit to society, but conversely, unwise and insufficient treatment and training will result disastrously.

5. Artificial limbs and appliances should be nationally standardized. It was the opinion that manufacture might best be provided for in a government factory.

6. Social service is one of the most essential factors of the organization of rehabilitation.

7. The public must be taken into confidence on the efforts being made in rehabilitation, and there must be enlisted in the cause community support, understanding, and enthusiasm. Without this no national program can be completely successful.

It was brought out at all the sessions that reeducational advantages should not be restricted to disabled soldiers, but should be extended to the cripples of industry—one hundred times more numerous than those disabled in battle.

The list of official delegates reads like a "Who's Who" in the field of rehabilitation.

France could have sent us no more representative worker in the field of the cripple than Dr. Maurice Bourrillon, director of the National Institue for War Cripples at St. Maurice, and president of the Permanent Inter-Allied Committee on War Cripples. Although past three score and ten, Dr. Bourrillon took active part in the meetings, presenting several valuable papers. With Dr. Bourrillon came the orthopedic surgeon, Dr. André Treves, chief of staff of the School of Reeducation at Rennes, and Edmond Dronsart, director of the School at Montpellier. In the party were also the representatives from Belgium and Italy, M. Louis Alleman, of the Belgian Military Institute for War Cripples at Port-Villez, France, and Professor Vittorio Putti, the renowned orthopedic surgeon and director of the Rizzoli Institute at Bologna. Accompanying the continental delegates was Miss Grace Harper, Chief of the Bureau of Reconstruction and Reeducation of the American Red Cross in France.

The head of Great Britain's delegation was a woman, Mrs. Ethel Wood, Secretary of the Ministry of Pensions. Mrs. Wood proved a most worthy representative, presenting Britain's work for the cripple in a clear and sympathetic manner and entering heartily in all the round table discussions. Mrs. Wood has lost "her men" in the war, but that loss has quickened her interest in what she regards as the noblest work in which she can engage—salvaging man power. England sent us also Maj. Francis Meynell, of the Ministry of Labor, and Capt. Percy Sharp, director of Curative Workshops, Shepherds' Bush Military Orthopedic Hospital, London.

From Canada came a large delegation from the Department of Soldiers' Civil Reestablishment. Included in the party were: Maj.-Gen. G. Carlton Jones, F. Gerald Bott, Maj. R. W. Coulthard, Lt.-Col. F. McKelvey Bell, Gerald A. Boate, Maj. H. P. Stanley, Capt. Edwin A. Baker, N. F. Parkinson, and others.

Practically the entire staff of the Reconstruction Division of the Surgeon-General's office were present. Col. Frank Billings, chief of that division, outlined the work done in the hospitals in this country. Col. Charles E. Banks represented the Bureau of War Risk Insurance. The Federal Board for Vocational Education was represented by Dr. C. H. Prosser, the director, and many of the workers of that organization.

Among the representatives of the American Red Cross were: Dr. Stockton Axson, Eliot Wadsworth, W. J. Hiss, Col. C. H. Connor, Curtis E. Lakeman, and other national and divisional officers.

The conference concluded with a thrilling public meeting at the Hippodrome.

# OCCUPATIONAL THERAPY, VOCATIONAL RE-EDUCATION AND INDUSTRIAL REHABILITATION

Conducted by DOUGLAS C. McMURTRIE, *Director Red Cross Institute for Crippled and Disabled Men* and ELIZABETH G. UPHAM, *Advisor in Occupational Therapy, Milwaukee-Downer College.*

## HELPING THE WOUNDED SOLDIER TO "COME BACK"

### Fundamental Aim of Work at Walter Reed General Hospital Curative—Psychological Examinations Help to Make Judicious Selection of Vocations for Patients—Mental Attitude a Powerful Factor in Rehabilitation

By BIRD T. BALDWIN, Major, S. C., U. S. Army, Director Department of Occupational Therapy and Chief Psychologist, Walter Reed General Hospital, Takoma Park, D. C.

The first systematic development of occupational therapy at Walter Reed General Hospital was initiated in February, 1918. From the simplest kinds of carpentry, the work grew apace with the clearly defined needs of the patients and the facilities which could be furnished.

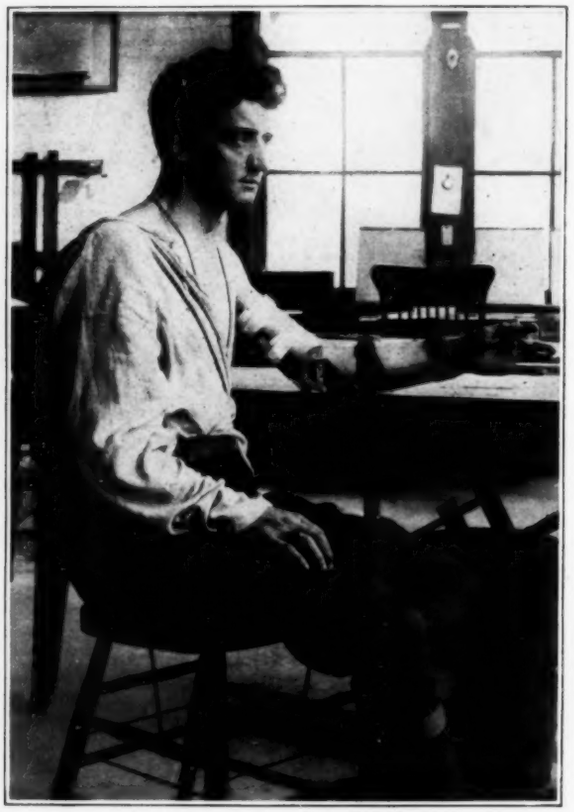

Fig. 1. Methods of measuring extension-flexion of elbow in psychological laboratory.

After a preliminary effort, it was found that such treatment of functional defects as had been planned was impossible without adequate equipment. The work which had been started proved, however, of very definite value in keeping cheerful, contented, and physically well the patients who were engaged in it; and, with the value in mind, the shop was continued for those patients who cared to work in it.

The fundamental aim of the work in the department of occupational therapy is curative. The specific purpose is to help each patient find himself and function again as a complete man, physically, socially, educationally, and economically; physically, by helping to restore his body so far as possible to its normal condition; socially, by enabling him to feel that despite his physical handicap he may still be a self-reliant and self-respecting member of the community; educationally, by furnishing him with

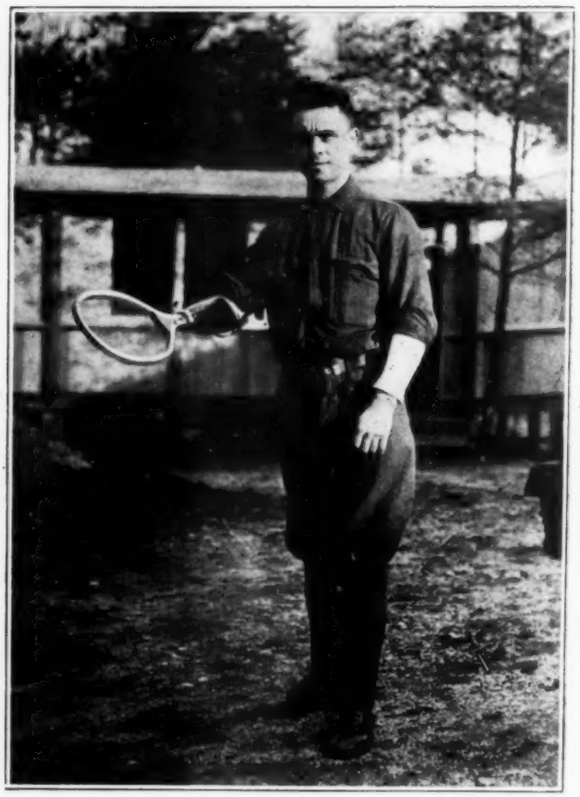

Fig. 2. Training in use of prothesis for right arm.

Fig. 3. View of the administration building and some wards at Walter Reed General Hospital, Takoma Park, D. C.

Fig. 6 (below). Light work in plastic modeling compositions and clay has sometimes decorative and artistic value as well as therapeutic. Perhaps an injured hand will lead some man to the discovery of an unsuspected talent; neither of these two men had ever handled any of the instruments before.

Fig. 4. This patient with his arm strapped down is undergoing no more terrible operation than having measured the extension-flexion of his joints and fingers in the psychological laboratory. Curative and educational work will be assigned to him on this scientific basis.

Fig. 5. Carving wooden handles is excellent light curative work for the left arm and hand, but that is not its only claim to interest, as the absorbed expression of the soldier seems to indicate. The results are mounted to the left.

Fig. 9 (below). Tools for the disabled. Note the use of dental modeling wax, which is easily molded and attached to the hand with the application of warm water to the wax, and the special appliances and tools for arm amputation cases.

Fig. 7. This model aeroplane is the completed work of some light therapeutic occupation undertaken in the well-equipped machine shop, where disabled hands achieve wonderful results — the most wonderful in some cases being their own cure. For those not mechanically inclined, rug-weaving or fine jewelry work may furnish the same means of cure and satisfy the same creative instinct.

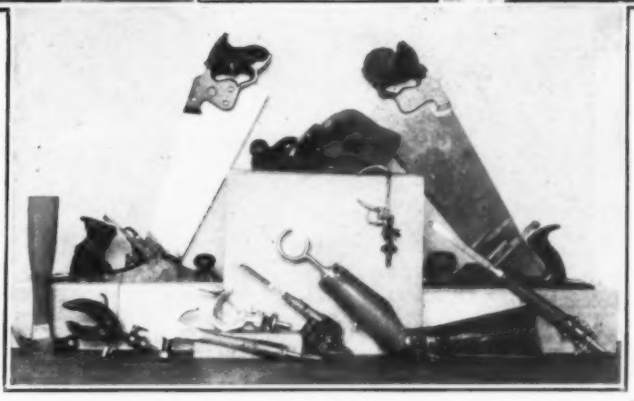

Fig. 8. Just beginning a project in the workshop, which may result in a small but perfect aeroplane like the other man has made or in any of the other contrivances which occupy minds and loosen stiffened fingers. The soldiers who return from here take home trophies of which they are almost as proud as of the German helmets they brought back from "over there."

such a training that he may make the most of his mental and physical resources and increase his personal efficiency; and economically, by providing him with a means of earning a comfortable livelihood so that his return to civil life may be an economic asset instead of a liability. The specific aims are functional restoration and the acquisition of habits of industry through normal work activities.

The method of formal mechanotherapy, or formal medi-

cal gymnastics, which has been so widely used, consists of exercises of a quasi-passive nature on special apparatus designed to give opportunity for the execution of repeated movements involving specific joints. This method has the advantage of isolating particular joints from the rest of the body and allowing for the construction of special apparatus designed to give repeated exercises under controlled conditions for limited periods of time.

The disadvantages of the mechanotherapeutic method are that the human body is more than a machine where the voluntary movements are concerned; and it is very doubtful whether the formal repetition of movement from a mechanical source is of maximum therapeutic value in increasing the amount of movement whether in the affected part or as an integral part of the larger coordination of movement of which each particular movement must ultimately be an essential part. The application of mechanotherapy does not allow for the personal initiative of the subject, gives little or no opportunity for sustained effort.

In the curative shops special projects, special machines, and special tools are set aside for strictly curative cases, and the instructors check the movements which each man makes in order to see that special joints are not favored or over fatigued. A distinct advantage possessed by the workshop type of therapy consists in the fact that the patient here is a member of a social group and turns out a tangible product of economic value; he is thus brought to full realization of his social fitness and economic usefulness —a factor which is of inestimable value in encouraging and inspiring him. He also notes from day to day in the psychological laboratory and shops the increase in functional restoration and is offered opportunities to try the same type of movement in other allied activities.

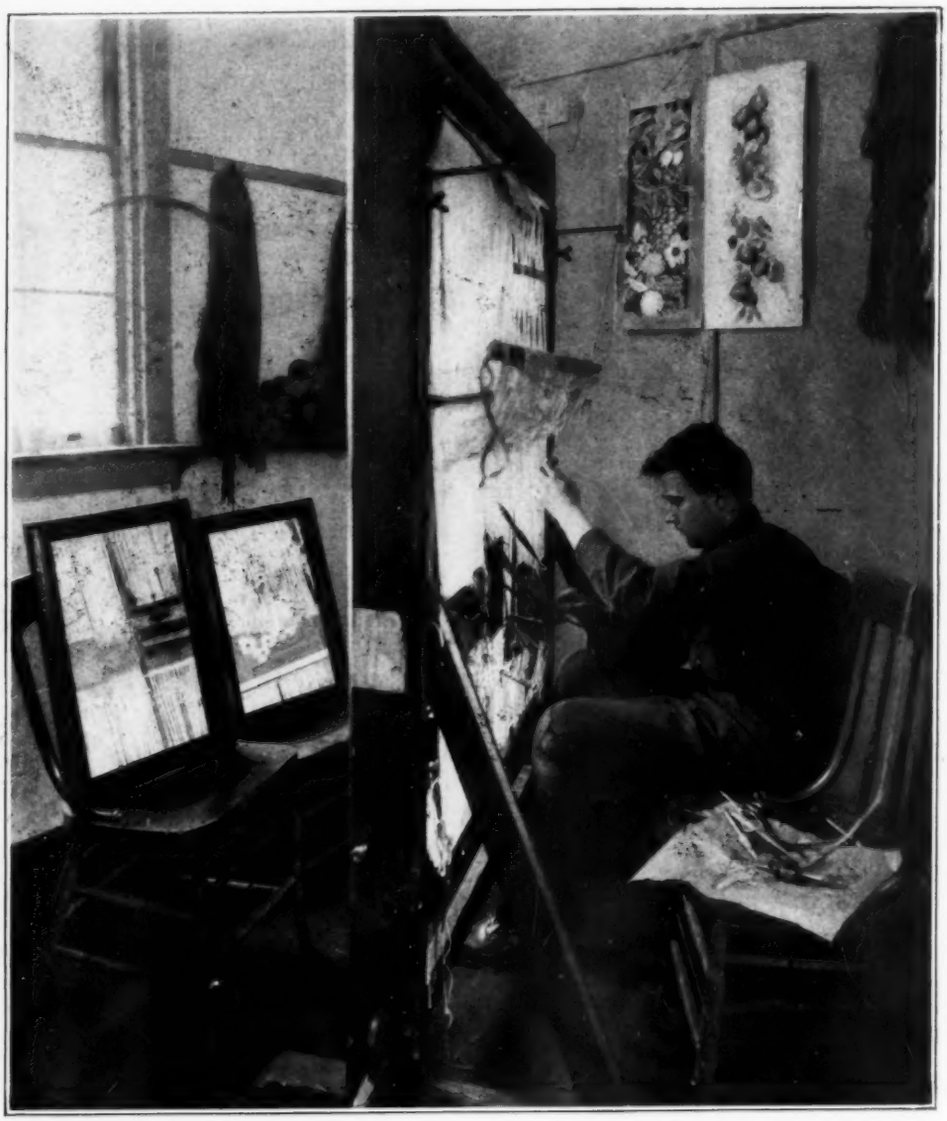

Fig. 10. This patient with an injured left hand is engaged in work in the Gobelin tapestry room which requires in particular the abduction and extension-flexion of the fingers.

### ORGANIZATION OF DEPARTMENTS

The department of occupational therapy is divided into five sections: Administrative, psychological and statistical, general or academic, technical, and recreational. The department has been a training and demonstration school for other hospitals and an experimental laboratory for trying out methods of teaching, developing outlines of subject matter, standardizing types of equipment, and selection and training of personnel.

The administrative department consists of the ordinary duties of a record and property office. This has required a large staff of clerks because of the rapidity of the growth of the department, the large "turn-over" of patients and the compilation of reports and data for the Surgeon-General's office.

The psychological and statistical department has been primarily responsible for the psychological and educational surveys of individual patients. It has made an intensive study of the learning problems encountered under the curative workshop schedule, the adaptation of curative methods to particular patients and specific disabilities, the application of trade tests and vocational guidance, and the measuring of intelligence by improved methods. The department has been very successful in measuring the increase and strength of the movement of partially ankylosed joints and stump limbs.

The academic or general department offers subjects from the most elementary grade through high school grades. The department has been particularly successful in reaching large numbers of patients who have not had the advantages of school training and who have been desirous of taking advantage of courses which have required some academic background.

The technical program comprises a wide variety of subjects, offering valuable instruction to the men who are mechanically inclined. The automobile department early seized upon the idea of doing practical work repairing cars. This has given the men opportunity to put in practice what they have learned in class discussions. With the construction of the new shops and the purchase of machinery, and with the settlement of the type of power,

Fig. 11. Jig-saw work requiring little or extensive movement of ankle or knee, as the case may require.

this promises to be a very valuable feature of the curative work. The drafting section has been particularly successful in arousing the interest of the men, and gratifying results have been obtained in this work. The farm has had a successful year, and the greenhouse work is proving to be profitable. The woodworking department, in addition to its curative work, has done a great deal of post repair work and has made possible many conveniences in the new shops. The rug-weaving section has always appealed to patients, and many new types of curative exercises have been developed. Especially fine work has been produced in the jewelry section. The modeling has developed the artistic temperaments of several men and provides them with a pleasing occupation.

The recreational department has handled the formal exercises and play hours of the patients. With the sending to this post of three or four instructors, the work was subdivided so that specialization was made possible, and a great deal of ward work has been carried on. One instructor was able to devote most of his time to the amputation cases. Cooperation with the orthopedic section made this work more profitable. This department, in cooperation with the department of physiotherapy and the Red Cross, has general supervision of the centralizing and direction of all recreational work, including plays, games, physical training, dancing, entertainments, excursions, music, and ward amusements.

The complete list of courses offered in the department of occupational therapy is as follows:

*Academic.*—English, French, Spanish, Arithmetic, Geometry, Algebra, Trigonometry, Penmanship, Left-hand Writing, Civil Service Preparation, History, Physics, Chemistry.

*Agricultural.*—Truck Farming Out Doors, Vegetables in Greenhouse, Text Book Studies, Flower Growing.

*Arts and Crafts.*—Wood Carving, Engraving, Jewelry Making, Silversmithing, Watch and Clock Repairing, Enameling.

*Commercial.*—Commercial Arithmetic, Commercial English, Short Hand, Stenotypy, Filing and Recording, Bookkeeping, Salesmanship, Typewriting, Commercial Law, Duplicating and Calculating Machines.

*Display Painting.*—Lettering, Poster Making, Sign Painting.

*Drafting.*—Working Drawings, Architectural Drawing, Tracing and Blueprinting, Topographical Drawing, Freehand Sketching, Perspective.

*Leather Work.*—Shoe Repairing, Novelties.

*Mechanical and Electrical.*—Oxy-acetylene Welding, Wiring for Bells, Lights, Motors, Machine Shop Practice, Telegraphy, Motion Picture Operation, Radio Operation, Mechanical Studies, Electrical Studies.

*Orthopedic.*—Artificial Limb Making.

*Physical Education.*—Athletic Sports and Games, Calisthenics.

*Printing.*—Hand Composition, Press Work, Linotype Operation.

*Woodworking.*—General Carpentry, Cabinet Work, Framing, Use of Steel Square, Pattern-making.

*Ward Occupation.*—Hand-craft Work, many of the above subjects.

### RECONSTRUCTION AIDES

The work of the aides started February 15, 1918. The first work consisted of knitting colored wool squares for blankets, together with some machine knitting. The men for the most part were bed patients and welcomed the opportunity to do something.

Gradually the work spread through the different wards and was finally systematized and organized.

The following list of activities have been carried on in the wards: Chair caning, cardboard construction work, woodwork, block printing, rush seating, brush making, book binding, modeling, rug making, stenciling, mop making, designing post cards, plasticine modeling, drawing, leather work, hand knitting, rake knitting, frame knitting, machine knitting, weaving, basketry, bead work, making colonial mats, netting, cord work, crocheting, and embroidery.

The curative results of the work are:

1. Palliative. Bed patients who have been recovering from serious illness and operations are kept cheerful and

little more of them. So implanted in our minds had the in good spirits. The work prevents them from dwelling on their disabilities, decreases homesickness and fretting over petty annoyances, and keeps their thoughts in healthy channels.

Among convalescents who are still unable to leave the wards, occupational work decreases the amount of card-playing, discourages idleness, and develops a desire for useful forms of work.

2. Remedial. In numerous cases the ward occupation has given patients dexterity in the use of fingers, wrists, and shoulders that have been stiffened or paralyzed. Frequently in arm cases the patient, through ward occupational work, has acquired greater skill in the use of the remaining arm. In mental cases, the work has a tranquillizing effect by breaking up wrong associations, preventing depression and inducing correct habits of thought. In cases of dementia, the occupational work keeps the patients' minds more continuously on one subject than is possible if they have not this stimulus to control their attention. The work also acts as a safety valve and renders the recurrence of attacks less likely.

To train the aides adequately for their work, a school for reconstruction aides was started at this post. It was postponed for a time due to the influenza epidemic, but finally started as soon as this became less serious. The course of training consisted of practical work with the patients under the supervision of experienced aides, and of lectures of both a general and professional nature. The school was discontinued shortly after the signing of the armistice.

Psychological examinations and records of personal, social, educational, and vocational history, furnish guidance in assigning the patient to appropriate educational work, and in making special adjustments in assignments to attain particular curative or functional results, as well as in helping to make a judicious selection of vocation.

Studies of the most economical and successful methods of learning, qualitative mental analyses, studies of special mental abilities and disabilities, the diagnosis and correction of cases of unsatisfactory progress in educational work, detailed examination of learning to write with the left hand and of learning typewriting—all these have centered around problems of learning.

The measurements of the amplitude of voluntary movements serve the two-fold purpose of encouraging and inspiring the patient by demonstrating to him in objective fashion that he is really improving, and of informing the surgeon and physiotherapist regarding the rate and locus of improvement.

No single factor exerts a more powerful influence upon the patient's convalescence and subsequent rehabilitation than the mental attitude of the patient himself. The patient who has abandoned hope and who indulges in self-commiseration and gloomy forebodings has reached a condition which thwarts the best efforts of the surgeon and the educator. Lethargy and hospitalization are the inevitable results, and experience in the military hospitals of our allies has shown that, so long as despondency, pessimism, and instability persist, the case is utterly hopeless. On the other hand, a cheerful optimism on the part of the patient, a spirit of self-reliance, and a determination to cooperate are so vitally important as to be indispensable.

That the various types of occupational activity and curative courses have had significant therapeutic value in many particular cases is apparent to those in close touch with the details of the work. This has been made possible through the hearty cooperation of the administrative departments and the surgical and medical services of the hospital.

It is also evident, at the close of our first year, that a new and important approach to educational procedure in this country has been initiated by all who contributed either directly or indirectly to the reconstruction of disabled soldiers in this hospital. The hospital has served as a training school, a demonstration laboratory, and an experimental workshop for a number of officers and enlisted men and women who have gone to other hospitals and convalescent camps to initiate, assist in, or direct similar work.

It is to be noted with satisfaction that a number of patients have taken courses of training through several weeks and have qualified for better positions than they held before entering the service.

We are now formulating our problems and methods in such a manner that the results of our experience may be carried into permanent and civilian hospitals during the reconstruction period, which will continue for several years. A detailed scientific monograph on the functional restoration of partially ankylosed joints by means of occupational therapy is now in press, and other studies will follow.

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## LEGISLATION FOR THE INDUSTRIALLY DISABLED

### A Bill Which Has No Opponents—Physicians, Manufacturers and Labor United in Its Support

By ELIZABETH UPHAM, Advisor in Occupational Therapy, Milwaukee-Downer College, Milwaukee

Not very many years ago a walk through the streets of certain Italian cities would have raised a question in the mind of a visitor, "Where do they come from, these cripples?" Emerson, visiting Naples in 1833, put down in his journal, "You cannot go five yards in any direction without seeing saddest objects and hearing the most piteous wailings. Instead of the gayest of cities, you seem to walk in the wards of a hospital. Even Charity herself is glad to take a walk in the Villa Reale, and extricate herself from beggars for half an hour." They besieged the passerby at half the corners, with repellant, mutilated faces, or stumps of arms and legs exposed to plead with the humane. Some were blind, and others had such ingenious deformities as neither industry, disease, nor war could originate. The answer was that some of these men were the victims of that state of mind that recognized beggary as a legitimate, easeful, and desirable occupation, and that their ignorant but providently-minded parents had mutilated them when babies so that they might be more successful in this calling.

The war, with the dawning conception of the usefulness of every human being in some occupation, be he whole or damaged, is transforming the cripples of Italy. At the present, Italy is one of the foremost countries in the work of rehabilitation. When the war came, she turned to the scientific restoration of the victims of its violence, and to the careful training and replacing of them in productive occupations. Her doctors and her industrial specialists have contributed as much as those of any country to the cause of reclaiming the disabled. It is safe to predict that instruction in the art of mendicancy will not have a place in her future courses of vocational preparation.

This change of attitude in Italy has not been more swift and complete than the revision of our own conception of the cripple. If we did not create cripples for the purpose of beggary, we at least let them know that we expected

limitations of the cripple become that the first reaction of a disabled American soldier when he found he was permanently maimed was to say, "I hope the lead pencil business is good in Boston." We looked upon every cripple as a potential shoestring seller, pencil vender, or beggar unredeemed. Workmen ignored his economic existence. One able-bodied laborer in Chicago, after searching without success for some casual work to tide him over a penniless time, asked for the dismissal of a cripple who was doing janitor work in the office of the Bureau of Charities, so that he could have the job. When asked what the lame man could do when dismissed, he replied, "He can go to some institution." It seemed to him that work was for the strong, and that dependency was only part of the cripple's lot.

The experience with the maimed in war has given us the realization that in the case of all disabled men "it is not what is gone, but what is left that matters." If the spirit of the cripple can be raised above his handicap and he can be given a chance at an occupation in which his disability is a minor hindrance, he may become a useful member of his community. We are beginning to see that in our waste of human life and our limited views of the possibilities of the crippled we are as reckless of our human resources as we once were of our natural resources when we wasted paper, rubber, and wood. The annual loss to the country through this neglect of human resources dwarfs the figures of waste in natural resources.

With awakened consciousness of economic loss and social wrong, the country is turning from the problem of retraining the disabled soldiers and sailors to the consideration of providing reeducation for the industrially disabled.

The United States had cause to be proud of the Smith-Sears bill passed by Congress last year, which gave training to every disabled soldier; but there is reason to be more proud of the Smith-Bankhead bill now before Congress, for it is this latter bill which is to give the chance to the men disabled in industry. It provides that the Federal Board for Vocational Education, which is charged with the reeducation of the disabled soldiers, will be the administrator of reeducation for these victims of the industrial army. The great machine which was set in motion to restore to usefulness the disabled in war, will be turned to the greater end of reinstating industrial workers in productive occupations.

When we consider the relative numbers of men who meet disability in war and in industry, we cannot doubt that industrial rehabilitation is the greater end. The figures furnished by the United States Bureau of Labor Statistics indicate that in one year accidents alone disabled over eight times as many as the total number of casualties among our troops in Europe. This does not include the numbers incapacitated by industrial disease. According to the latest figures, between one hundred and two hundred soldiers have been blinded by the war, whereas there are in the United States at present 15,000 cases of blindness resulting from industrial accident.

Outside of the significance lent to the measure by the great numbers who would benefit by it, there is the consideration that it is a permanent thing, one which is not confined to a group of men such as the discharged soldiers of the present war, but which will offer lasting benefits to the victims of industry.

It is a sign of the dawning era of reconstruction that labor and capital join to support this great economic and humanitarian measure. At the hearings of the new bill, representatives of varied interests endorsed it as valuable both in helping injured workers and saving society the expense of supporting them. Among the organizations to endorse the bill are included the National Association of Manufacturers and the American Federation of Labor.

Mr. Arthur E. Holder, representative of labor on the Federal Board for Vocational Education, says:

"I tell you, gentlemen, that the statesman who can raise and rescue his brother who has fallen by the wayside through an accident in industry or in social relations and place him upon his feet as an independent, self-reliant American citizen is making an investment of public funds the outcome of which no human being is able to see."

Another champion of labor, Mr. Samuel Gompers, president of the American Federation of Labor, said:

"I hold, as I think every humanity-loving man holds, that, believing in conservation, there is nothing quite so valuable to our country and to the world as the conservation of human life and human endeavor. Industry is, as it has been conducted, most destructive of human life and human endeavor. There are accidents resulting in death and loss of limbs which are preventable in industry. There are some of them which seem to be unpreventable. Even with all of the precautions which are devised, there are some accidents which still occur, and there are some injuries which still occur.

"Now, as a result of those accidents or injuries which occur and are preventable and should be reduced to the minimum, and the accidents of industry which seem to be preventable up to the present time generally, the men and women of labor are injured and have been thrown upon the industrial scrap-heap, in so far as society is concerned, and in so far as any human institution is concerned. The war, if it has not taught us anything else . . . . has taught us the value of the rehabilitation of the wounded soldier, and that if there be any part of his body left which is available for service to society and for benefit to himself, it should be made useful."

Mr. F. W. Keough of the National Association of Manufacturers also heartily endorsed the measure. He said:

"Now that loss (from accidents) goes on year after year, and this matter of rehabilitation commends itself to employers, manufacturers, and business men generally as a business proposition, entirely apart from the humane consideration . . . . manufacturers have been tremendously interested in the conservation of human life, and the conservation of human energy, as it relates to industry."

Dr. Harry E. Mock, president of the American Association of Industrial Physicians and Surgeons, said:

"Real rehabilitation . . . . is going to be accomplished by injecting something into the industries of this country which neither legislation nor any similar agency can inject, that is, a humanitarian viewpoint combined with good business."

Dr. C. A. Prosser, director of the Federal Board for Vocational Education, said in reference to the bill:

"I believe it is the only far-sighted, economic policy for the government, the state, and the man. . . . Someone must pay the cost of their idleness and dependency. Instead of paying this cost from taxes or soliciting it by the degrading channels of charity, rehabilitation costs less and places the man upon his feet. Moreover, he provides for his own family. I urge this, therefore, first as an economic measure, and second, as a humanitarian one."

The enthusiasm and the wide interest which supported this bill at the hearings before a joint committee on labor and education are a happy augury for its adoption. The lack of opposition, as Mr. Holder points out, is the only appalling feature. Mr. Holder had jubilantly enumerated to Senator Dolliver, who was to introduce the first vocational bill into the United States Senate, all the educational institutions, labor organizations, and manufacturers' associations which had declared themselves in its favor. "Who is against it?" demanded the senator.

"Why," said Mr. Holder, "there's no one against it."

"Get somebody else to handle it!" cried the senator. "I can't handle a bill that doesn't have to be fought for."

# HEALTH AND MODERN INDUSTRY

Conducted by BARROW B. LYONS
*Superintendent Delaware Hospital. Wilmington, Del.*

"The Three Fears," drawn by Cesare for the American Association for Labor Legislation, and here reprinted through their courtesy.

## COST OF HEALTH SUPERVISION IN INDUSTRY*

### A Summary of the Experience of Ninety-nine Industrial Concerns Employing Half a Million People

By MAGNUS W. ALEXANDER, Managing Director of the National Industrial Conference Board

The first compilation of the cost of health supervision in industry which I made for the Conference Board of Physicians in Industrial Practice was published in October, 1916, and comprised data, mostly for 1915, submitted by forty-one industrial plants with an aggregate average of 223,416 employees. The average annual health supervision cost, as then reported, was $1.88 per person. The lowest cost ($0.53) was reported by a metal trades plant employing 385 persons, the highest ($7.79) by a paint factory employing 2,448. Some of the reports, however, were approximations only, based on incomplete records or on a short experience while the work was in its infancy. A new compilation was therefore decided on to be based on longer, more varied and more mature experience.

The summary of the later compilation is given in the accompanying table. It presents data for the year 1916, as reported by ninety-nine industrial plants located in fifteen states. The total average number of employees represented was 495,544; the average number per plant was 5,005, the maximum 37,107, the minimum 141.

While the average cost per person, as indicated in the summary, is $2.50, it is not representative, as the total cost on which the average is based includes that of four plants which render unusual service, giving both medical and surgical attention to their employees at the plant and in their homes as well, besides assuming the medical care of employees' families. Omitting these four plants from consideration, the average cost for the 479,634 employees in the other 95 plants was $2.21.

Where the average cost appears to be unusually high or low, the reason is in many cases indicated in the table itself. The size and character of the medical staff is usually the determining factor. In some cases, the cost is influenced greatly by the number of injuries treated in private or public hospitals, in others by the amount of care given to all injuries, serious or slight, or by extension of the service to include physical examination of all employees, treatment of sickness of employees at the plant and at home, and even by medical care of employees' families, or by a combination of these features.

The cost is also influenced, of course, by the kind of work done in particular plants and by the character of the industry. Shops doing very light work, with little hazard exposure, naturally have fewer and less serious accidents than those doing heavy work, particularly where there is much overhead handling of materials, or where many men work in elevated positions, as in the power and light industry. The cost in plants manufacturing chemicals and paints reflects the great care exercised to safeguard the health of workers in those industries.

A total of 3,165,114 cases was reported, an average of more than six cases per person employed, at an average cost of $0.39 per case. The number of cases reported, however, does not include all of the service rendered. In many plants, no record is kept of slight injuries, of injuries redressed, of medical cases treated, of home visits made, or of physical examinations. In others, even the most trivial cases are counted. Furthermore, as "cases" are so varied in gravity and in the time required for treatment, any comparisons of costs per case are not of much value.

The "Total Medical and Surgical Cost" includes salaries of physicians and nurses, cost of outside medical and surgical service and cost of medical and surgical supplies, whether or not paid for by insurance companies as a part of the insurance contract; it excludes compensation for injuries, overhead expenses, and wages paid to employees while off duty to have their injuries treated.

The aim of this compilation is to inform employers of the actual cost of health supervision of employees in different industries. To this end, the data were secured from plants engaged in many industries, in light, medium, and heavy work, in comparatively safe as well as hazardous operations, and in shops of various sizes and character, located in various parts of the United States. Some are situated in cities where hospitals and specialists are available, some in small places where such service can be secured only with difficulty.

The significance of these data, from a general viewpoint, is that such a large amount of medical and surgical service is possible at an average of only $2.21 per employee per year.

Convincing proof of the economic value of health supervision in industry is afforded by the fact that, when collecting the data contained in this report, it was found that no employer had abandoned the health supervision activi-

*These data were compiled for the Conference Board of Physicians in Industrial Practice.

ties established in his plant. On the contrary, the prevailing tendency has been to invest even more money in extending the service.

COST OF HEALTH SUPERVISION IN VARIOUS INDUSTRIES

| INDUSTRY | Number of Establishments Represented. | Total Average Number of Employees Supervised | Total Cases of all Kinds. | Total Medical and Surgical Cost. | Average Annual Cost of Medical and Surgical Supervision per Employee. |
|---|---|---|---|---|---|
| Metal Trades | 47 | 294,646 | 1,988,991 | $541,771 | $1.84 |
| Rolling Mills | 7 | 49,317 | 358,574 | 137,047 | 2.78 |
| Smelting and Refining | 1 | 1,270 | 2,832 | 6,932 | 5.46 |
| Light and Power | 7 | 24,921 | 49,046 | 92,601 | 3.72 |
| Transportation | 5 | 35,795 | 81,591 | 69,633 | 1.95 |
| Chemicals | 6 | 10,572 | 78,744 | 34,797 | 3.29 |
| Food | 5 | 13,650 | 69,565 | 39,875 | 2.92 |
| Rubber | 5 | 27,462 | 234,069 | 76,089 | 2.77 |
| Textiles | 4 | 8,939 | 67,380 | 24,177 | 2.70 |
| Paint | 2 | 4,023 | 10,255 | 29,635 | 7.37 |
| Leather | 2 | 3,026 | 9,440 | 6,102 | 2.02 |
| Publishing | 2 | 3,358 | 6,742 | 3,473 | 1.03 |
| Coal Mining | 1 | 2,454 | 2,842 | 4,637 | 1.89 |
| Gold Mining | 1 | 2,500 | 62,126 | 35,590 | 14.24* |
| Coal and Iron Mining | 1 | 11,000 | 131,898 | 130,000 | 11.82* |
| Miscellaneous | 3 | 2,611 | 11,019 | 6,126 | 2.35 |
| | 99 | 495.544 | 3.165,114 | $1.238,485 | $2.50† |

*Cost includes treatment for sickness of employees and their families when requested.

†The average annual cost per employee, excluding plants for which the cost includes sickness treatment of employees and their families at home, was $2.21.

* * * *

## SAVINGS TO A MANUFACTURING CONCERN IN A PLANT DISPENSARY

### How a Large Manufacturing Concern Profits in More Ways than One by Caring for the Health of its Employees

By J. T. SELLER, Secretary Greenfield Tap and Die Corporation, Greenfield, Mass.

For the past nine months we have employed a trained industrial nurse and have maintained a fully equipped emergency room at our four largest plants, each of these rooms being under the supervision of an assistant to the nurse. The assistants are young women whom we have chosen from our plants as showing some adaptability for the work and who have been trained by the nurse until they have become thoroughly competent to handle all minor ailments and injuries. At the three small plants of the corporation we maintain simply the full first-aid equipment.

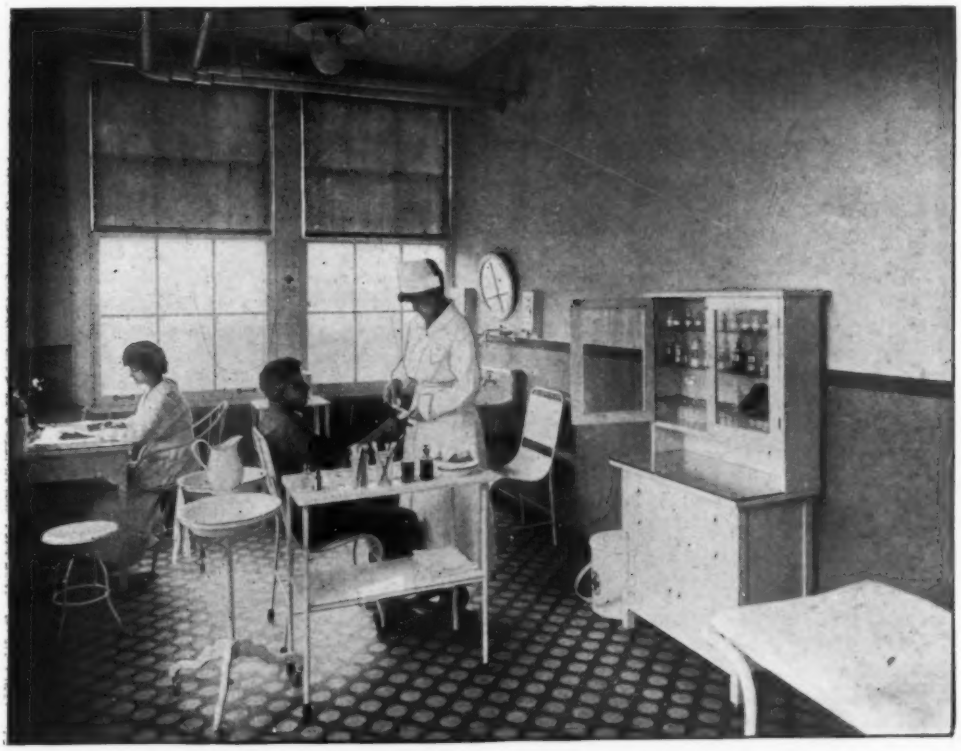
We have found this service of tremendous value in cutting down absenteeism owing to the lessening of accidents and the treatment of minor ailments that previously resulted in absences from work. Our nurse's report shows that in the nine months there were 125 less accidents which caused lost time than there were in the previous nine months. Figuring the time loss on the average disability accident, we have found that there is an actual saving to the corporation of productive value to the amount of $1750.

In addition to this important figure, our records show that there were 520 cases of severe indigestion and headaches treated in the emergency rooms that otherwise would have involved the loss of one-half day each—that is to say, the operator would probably have been incapacitated and obliged to leave work for that length of time. The estimated saving to the corporation in production on this item alone may be conservatively figured at $2500.

In addition to this work, our employment department investigated 1238 cases of absent help, and our nurse made 80 visits to the homes of sick employees. These visits did not include those which were made during the month of epidemic influenza, when our nurse gave practically her entire time to calling on employees who were stricken to bring relief to their families and advise them on combating the disease.

The result of the absent help investigation cannot be measured, but it is fair to state that a considerable reduction in absenteeism is brought about through the fact that the employee knows he is looked up when absent from the factory and from the fact that those who prove to be ill immediately receive proper medical care. Production is materially increased, since the works manager of each plant is given definite information as to how soon an operative will probably return to work, thus giving him an opportunity to make the necessary substitution on his or her machine.

We believe that the installation of emergency rooms under the supervision of a trained industrial nurse not only has paid in dollars and cents, but the service rendered has been greatly appreciated by our help, thereby contributing a great deal to the good will of the employees toward the management and to the reduction of labor turnover.



Bandaging a maimed finger in the dispensary of the Greenfield Tap and Die Corporation.

## INDUSTRIAL HEALTH PROTECTION AT THE WESTERN ELECTRIC COMPANY

### Company Pays Sick Benefit Insurance for Employees of Two Years' Standing—Regular Physical Examinations Are Part of the Service—Medical Department and Emergency Hospital Complete in Personnel and Equipment

By MARGARET J. ROBINSON, R.N., Field Editor of The Modern Hospital

The plant of the Western Electric Company at Hawthorne, Ill., which employs twenty-five thousand industrial and clerical workers, both men and women, has worked out a system of health protection and health conservation under the supervision of its medical department which has brought results in the conservation of time and labor, as its statistics show. These results have been obtained, not by the reduction of the workman's income, as is done in the much-vaunted German system of health insurance, but is paid for out of the profits of the plant.

In the Western Electric plant, a worker's physical condition is considered one of the company's assets and is protected and conserved accordingly. The emergency hospital and physical examination department of the plant is exceptionally well constructed, equipped, and administered. In fact, it may be considered as a model which would be ideal for any large industrial plant. The plant of the Western Electric is model throughout, consisting, as it does, of well-constructed, fireproof buildings, wide, clean streets between, and well-kept green grass and flower beds wherever they will add to the beauty and comfort of the place. The company is doing a great amount of government work, and the whole plant is so thoroughly policed and guarded that it is almost as difficult to get through the gates as through the gates of heaven. A chance visitor must give his pedigree to obtain a pass and show this pass at every turn of the road in order to get anywhere.[1]

The medical department building is a one-story building. It has a lawn and stately rows of tulips bordering the pathway to the door. The interior of the building is beautifully white throughout. No expense was spared by

[1]This was written before the signing of the armistice.—Editor.

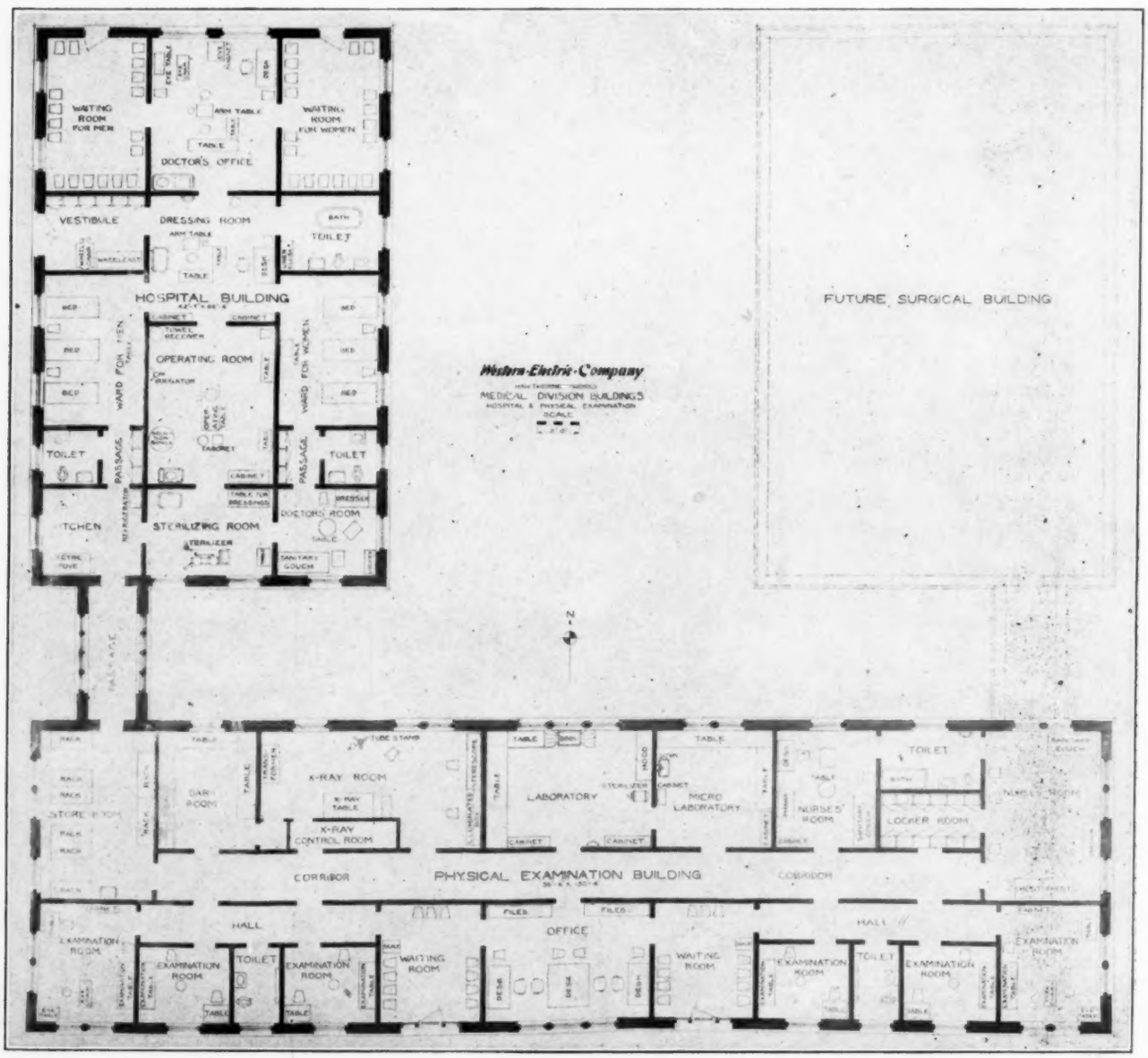



Fig. 1.—Floor plan showing the physical examination building, the hospital building, and the site of the future surgical building of the Western Electric Company.

the Western Electric Company in the furnishings and conveniences of the building to make it complete for the service it was to render to the employees of the company. Only first aid, physical examinations, and emergency operations are done in the hospital building. There are only six beds, and patients needing longer than forty-eight hours' care are removed to general hospitals. Besides the surgeon in charge, Dr. William Lucas, there are eight salaried interns, two women laboratory technicians and fifteen graduate nurses employed.

The first aid room is very complete, and its immaculate furnishings are arranged to care for any emergency that might arise in the plant. The laboratories are provided with everything needed for complete physical examination tests. The radiographic laboratories are unusual; the furnishings are carried out in the same immaculate white. The diagnostic frames, the tube tables and carriage, and all the electric equipment have been perfected to the highest degree of convenience and technic by the expert electricians of the plant. The overhead wiring system is much more accurate and perfect in its function than would be possible for any average hospital to have because of the time and skilled electrical labor it would need to perfect it.

In the offices where the files of the physical examination of the twenty-five thousand employees are made and kept, all is immaculate white too, even the typewriting machines and the girls who operate them.

Every employee is given a thorough physical examination when he enters the plant, and another each time he is reported sick for more than four days. All examinations and dressings except emergencies are scheduled for the morning hours.

Social service, in the ordinary sense of the term, is not given to the employees; no investigators visit the homes of the employees, as the company believes that each man's house is his castle and that they have no right to intrude on his privacy. On the other hand, any social help a man may need for himself or his family is given if he requests it.

The employees are not taxed for the sick benefit insurance. All are entitled to it after two years with the company. The weekly payments increase with the year of service. All injured employees receive full pay when laid off; all cases of illness receive full pay for five weeks and half pay thereafter. The benefit plan is under state compensation. Very few cases ever need adjustment by liability insurance. Some employees are received for work conditionally and put under observation. Everything is done by the medical department to make them physically fit and to keep them so. All cases under treatment must report for treatment and observation until discharged by the medical department.

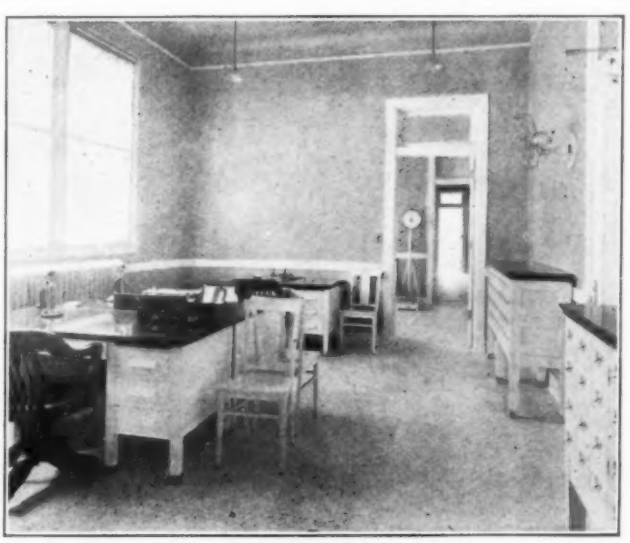


Fig. 2.—Office of the physical examination department of the Western Electric Company. Even the offices of the hospital department of this concern carry out the ideal of immaculate equipment.

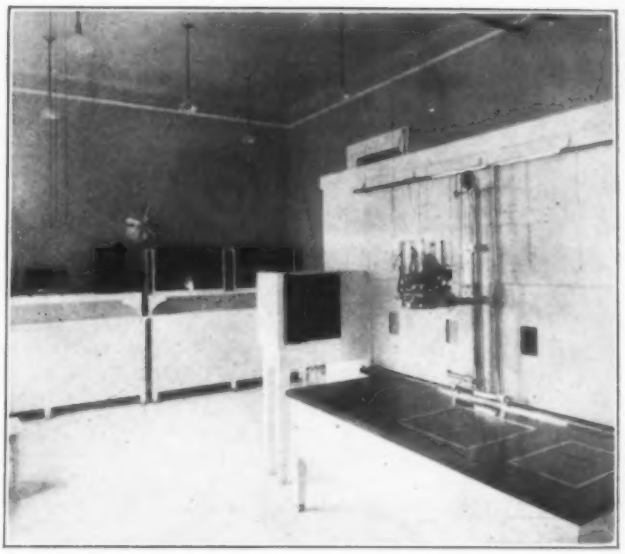


Fig. 3.—The radiographic laboratory of the Western Electric Company. The expert electricians of the company are responsible for the high degree of excellence which it has attained in the diagnostic frames, the tube tables and carriages, and the overhead wiring system.

The medical department makes regular inspections through the plant, and watches the occupational fitness of all employees. Recommendations for changes by this department are carried out by other departments without question, and no employee is left where the medical department believes he is endangering his physical welfare. The Western Electric Company places a humane and a market value on the health of its employees and spares no expense to protect the individual.

* * * *

### Prize for Thesis on Industrial Medicine and Surgery

The American Association of Industrial Physicians and Surgeons offers a prize of $100 for the best thesis on any subject related to industrial medicine and surgery by any undergraduate student of the United States. The thesis must not contain more than five thousand words.

All theses must be in the hands of the secretary of the association, Dr. Francis D. Patterson, Department of Labor and Industry, Third and North Streets, Harrisburg, Pa., by May 10, 1919.

* * * *

### An Advocate of Health Welfare

In response to a letter recently sent to the International Harvester Company the following reply was received:

"It is impossible to answer a number of the questions which you have asked, except in very general terms.

"The question of increasing output, reducing cost of operation, etc., are things on which it is very hard to compile statistics.

"In a general way, there has been great improvement in many of the annoyances incident to industry on account of loss of time, labor-turnover, etc., and it is impossible to say just how much health work has been responsible for this change, but it is decidedly the opinion of those who have had the work under their supervision that there has been a marked improvement."

# QUERIES AND ANSWERS

### Exterminating Roaches

To the Editor of THE MODERN HOSPITAL:

Can you make some suggestion as to the best means of exterminating roaches in a hospital? Various sprays and powders have been used with very unsatisfactory results.

HOSPITAL SUPERINTENDENT.

Roaches are particularly hard to get rid of because of their instinct for concealment and their ability to detect the presence of poisons in food. The use of sodium fluoride, however, has been found effective in numerous practical tests in lunch rooms, bakeries, milk-bottle exchanges, etc., and is recommended by the United States Department of Agriculture. It can be used pure or diluted one-half with some inert substance, such as powdered gypsum or flour. With a dust gun or blower it is to be thoroughly dusted over the shelves, tables, floors, and the runways and hiding places of the roaches. The insects are driven from their retreats, rush blindly about in great apparent discomfort, and die within a few hours. The dead or paralyzed roaches can then be swept up and burned, and extermination is effected within twenty-four hours.

Whatever is done, however, to exterminate this pest, no encouragement should be offered in the line of accessible food, or the fight will be unending. All material that roaches will eat—and, it must be remembered, they will eat almost anything—should be kept in tins or insect-proof boxes with properly adjusted and tightly fitting covers. For foods that require ventilation the covers may be made of wire gauze with moderately fine mesh. All food scraps should be deposited in metal-covered garbage cans immediately after meals.

### Organization of Small-Town Hospital

To the Editor of THE MODERN HOSPITAL:

What is best form of organization for a hospital in a town of twenty-five thousand? Our new hospital will have a capacity of fifty beds, and we are planning a new organization, since the old has not been satisfactory.

The hospital has been under the management of one church although no preference has been given to it in authority. People of various denominations have held executive positions, and efficiency comes first in making appointments to our board of control or our management.

At present the property is held by trustees of the church. The chairman of the managing board is the rector of the church by virtue of his office, and some of this board are members of other churches. The board, however, does not actually operate the hospital. This is done by the woman's board, which elects its own members, makes its own laws, and has in its membership women from all churches. This advisory board collects and disburses all money and hires and fires all help. The board of managers acts as trustees of the endowment fund.

Will you let me know what you believe to be the best organization for this hospital, and also what experience has shown in the administration of boards of hospitals by women managers in direct control?

PRESIDENT OF A BOARD IN THE MISSISSIPPI VALLEY.

According to experience, the management of hospitals by women's boards has not been satisfactory. In fact, the same thing may be said of boards composed of men if these boards attempt to exercise executive control. Such boards have been useful as auxiliaries which have made money and furnished supplies, but they have stood in the way of progress where they have had control.

You will be carrying out the function of a board of trustees as it is considered standard today if you have a non-sectarian board representing the different elements of good in your community to act as advisors and support to your superintendent. This board should not be large, not more than six or eight at the most. The rest of your members may be formed into an auxiliary to raise money and to furnish the things needed.

Your executive, *responsible only to the central organization,* should be an experienced superintendent. For an institution the size of yours, the best choice would be a capable woman who is a graduate registered nurse, and she should be given entire charge of the actual running machinery in the hospital without outside interference.

Results have proved this method of hospital management to be the most efficient. The older methods where committees actually attempted management should go to the scrap heap, because experience has shown that they have brought friction.

### Transfusion Agreement for Hospitals

To the Editor of THE MODERN HOSPITAL:

The process of transfusing human blood is becoming quite common. Despite all precautions there is a possibility that the process may result unexpectedly in injury to the recipient. Is there any way in which hospitals may protect themselves so that they may be released from any damages which may result?

SUPERINTENDENT OF AN EASTERN HOSPITAL.

The administrative process in connection with transfusion has not been generally standardized. It is desirable, however, that the hospitals protect themselves in some manner. The following forms were prepared by one of the larger hospitals as formal releases to be signed in advance of the operation by the recipient or the representative of the recipient, and the donor.

TRANSFUSION AGREEMENT
.....HOSPITAL
(FORM FOR RECIPIENT)

I, ....., request..... Hospital to perform or cause to be performed by such surgeons, physicians, nurses, and others as it may designate for the purpose, the operation of transfusion of blood upon myself as recipient from any donor or donors thereof that the hospital may designate, hereby assuming full risk of said operation from whatever cause arising, and releasing the hospital and those whom it may have designated, and its and their successors, heirs, and legal representatives from any and all damages which may result to me as a direct or indirect result of said operation.

(Signed).....
.....191....

TRANSFUSION AGREEMENT
.....HOSPITAL
(FORM FOR REPRESENTATIVE)

I, ....., the .....[relationship] ..... of.....[patient]....., representing the latter whose condition does not enable him to act for himself, hereby request .....Hospital to perform or cause to be performed with such donor and by such surgeons, physicians, nurses, and others it may designate for the purpose, the operation of transfusion of blood upon.....[patient].....as recipient, hereby assuming for myself and for the said recipient the full risk of said operation from whatever cause arising, and releasing the hospital and those whom it may have designated, and its and their successors, heirs, and legal representatives from any and all damages which may result to the said recipient as a direct or indirect result of said operation.

(Signed).....
.....191....

TRANSFUSION AGREEMENT
.....HOSPITAL
(FORM FOR DONOR)

I, ....., agree to submit to the operation of transfusion of blood as the donor to any recipient, and, in consideration of the payment of $....., the receipt whereof is hereby acknowledged, do hereby release.....Hospital and such surgeons, physicians, nurses, and others as it may designate, and their successors, heirs, and legal representatives from any and all damages which may result to me as a direct or indirect result of said operation, hereby assuming all risks thereof from whatever cause arising.

IN WITNESS WHEREOF, I have hereunto set my hand and seal this.....day of.....191.....

..... (Seal)
.....
.....

# DEPARTMENT OF NURSING

Conducted by ANNIE W. GOODRICH, Dean Army School of Nursing and CAROLYN E. GRAY, R.N.

Please address items of news and inquiries regarding Department of Nursing to CAROLYN E. GRAY, R.N., Principal, City Hospital School of Nursing, Blackwells Island New York.

## THE PRESENT STATUS OF THE EIGHT-HOUR DAY FOR PUPIL NURSES

### Schools Which Have Tried the System Report on Its Advantages and Disadvantages—Nurses Almost Universally Healthier and Happier Under Eight-Hour Schedule

A former article on the subject of shorter hours for student nurses[1] stated that there were ten schools in the United States, outside of California, and the Army School units in which the eight-hour day was an established fact. Many inquiries regarding these schools have led to an endeavor to corroborate this statement. A questionnaire has been submitted to each school mentioned in Miss Nutting's pamphlet, "Educational Status of Nursing," as maintaining a working day of eight hours or less. Ninety letters were sent out, and replies came from fifty-eight schools. Since we are all glad to publish our good deeds, it may be safely assumed that the schools from which no response was received are not working on an eight-hour schedule.

To summarize, briefly, the following discoveries were made:

1. Six schools reported having a strict eight-hour schedule.
2. Ten have an eight-hour day, with a night ranging from nine to fourteen hours.
3. Four have a "modified" eight-hour system.
4. Four have had an eight-hour system but have "gone back."
5. Thirteen are "interested," "would like information," or are "about to introduce an eight-hour system."
6. Seven say it would be "impossible" to give shorter hours.
7. Fourteen are frankly uninterested in the subject.

There were references to ten schools supposedly run on the eight-hour basis. This study is quite incomplete but furnishes a fair estimate, I believe, of the situation in our schools. One point which impresses itself on those who have watched the movement is the ease with which the eight-hour system has been introduced in those schools and communities where public opinion was back of the movement. Of the six schools running on the strict eight-hour plan, three were established on that basis and have never felt the need of going back.

Again, where we find schools running very successfully with an eight-hour day and a longer night, it would seem that only tradition keeps them from changing to the eight-hour night also. California, after five years under the law which obliged hospitals to shorten the pupils' working day, would not wish to go back. The Army School adopted the shorter working day as a basic principle, and those who have helped to organize the units of this school are enthusiastic advocates of the principle.

I have attempted to analyze the replies to the questionnaire submitted and will state some of the facts obtained. We will be extremely grateful for additional information on this subject and will publish any further data received.

The six schools reporting the strict eight-hour day are (1) Farrand Training School of Harper Hospital, Detroit, Mich., which has been working on this basis for nearly thirty years; (2) the Lakeside Hospital Training School, Cleveland, Ohio, organized on the eight-hour plan; (3) the Presbyterian Hospital, Chicago; (4) the Niagara Falls Memorial Hospital, Niagara Falls, N. Y.; (5) the Maine General Hospital, Portland, Me., and (6) the City Hospital School of Nursing, Blackwells Island, N. Y.

The hours are regulated in these schools as shown in the following paragraphs. In the first school the senior and assistant nurses work eight continuous hours, while the junior nurses have a "split-time" schedule, as follows:

| Senior and Assistant | Junior Nurses |
|---|---|
| 7 a. m. to 3 p. m. | 7 a. m. to 11 a. m.—3 p. m. to 7 p. m. |
| 3 p. m. to 11 p. m. | 7 a. m. to 12 a. m.—4 p. m. to 7 p. m. |
| 11 p. m. to 7 a. m. | 7 a. m. to 1 p. m.—5 p. m. to 7 p. m. |

Graduate nurses are on duty ten hours daily and are in charge of all departments. There is always a supervisor in charge of two or more floors. The night supervisor and her assistant are on duty from 7 p. m. to 7 a. m. They have one-half night off duty each week and a whole night each month.

The second school was organized on the eight-hour plan and has never changed. The schedule of hours is as follows:

1. Day nurses report at 7 a. m. and are off duty three hours daily, plus one hour for lunch and one for dinner.
2. A group of nurses come on duty at 1 p. m. and work until 5 p. m., are off duty until 7 p. m. and then work until 11 p. m.
3. Night nurses are on duty from 11 p. m. to 7 a. m. having their night supper at 10:30 p. m. before going on duty.

The third school has three relays of nurses. The first relay works from 7 a. m. to 7 p. m. with "hours off." Some of the nurses are off duty from 9:30 a. m. to 1 p. m., some from 1 p. m. to 4:30 p. m., and others from 3:30 p. m. to 7 p. m. The second relay works from 3 p. m. to 11 p. m. The third relay works from 11 p. m. to 7 a. m. The night supper is served from 10:30 p. m. to 11:30 p. m. The average is one nurse to every two patients.

In the fourth school the eight-hour plan has been in force two years. It has been most practical and satisfactory. The nurses have been happier and healthier, and the patients have received better care. The three-shift plan was preferred, giving longer, uninterrupted periods for rest, recreation, and study. The proportion of nurses to patients is about one to three, and the increase in order to make the change was estimated at 15 percent.

The hours of duty are: 7 a. m. to 3:30 p. m.; 3 p. m. to 11:30 p. m.; 11 p. m. to 7 a. m. One-half hour is allowed for meals. The night supper is served at 10:30 p. m. The duties of each nurse are carefully outlined. Ward baths are given by the 3 to 11:30 p. m. nurses between 7 and 9 p. m. Most of the cleaning is done by the 11 p. m. to 7 a. m. nurses between 2 and 4 a. m., when the work is lightest, leaving the floor in an orderly condition for the day nurses.

The fifth school also has three relays. The greater num-

1. Gray, Carolyn E.: A Square Deal for the Pupil Nurse, THE MODERN HOSPITAL, Feb., 1919, XII, 141.

ber are the day nurses who are on duty from 7 a. m. to 3 p. m. with a "broken-time" nurse in each ward whose hours are 8 a. m. to 12 a. m. and 3 p. m. to 7 p. m. Another nurse is on duty from 3 p. m. to 11 p. m. If the ward is heavy, there are two for this period. A night nurse comes on at 11 p. m. and remains until 7 a. m.

The nurses average about one to two patients. "The disadvantages are: (1) too little time for class work and (2) the tendency of the pupil nurses to spend too much time in recreation. The advantages are: (1) the small proportion of nurses off duty on account of illness and (2) no bother with afternoons or Sunday relief."

In the sixth school the eight-hour day was started in October, 1918, with a group of twenty-five students who entered at that time and who had already had their preliminary work outside the hospital. These students were put on eight-hour duty because of epidemic conditions. It had been planned to give them not more than six hours' duty for the first month, at least.

"In December a second group of twenty students, who had been in the regular probation class and working not more than five hours daily, was also put on eight-hour duty.

"The period from October to December had been particularly difficult. January first it was found possible to put the whole school on an eight-hour schedule. The day nurses had been working nine hours daily, so an additional hour was all that was necessary for them. The night duty was our point of attack, since the night nurses had always worked twelve hours.

"A group of junior nurses was put on duty to cover the time from 2 p. m. to 11 p. m. These nurses have an hour off for supper, either 5 p. m. to 6 p. m., or 6 p. m. to 7 p. m. A third group of nurses reports at 11 p. m. and remains until 7 a. m. The nurses in this group are either seniors or graduates.

"The change meant doubling the number of night nurses, the group on duty from 2 p. m. to 11 p. m. making up for the extra time allowed the day nurses. The schedule stands:

7 a. m. to 7 p. m. (with hours off).
7 a. m. to 4 p. m. (1 hour for dinner).
2 p. m. to 11 p. m. (1 hour for supper).
11 p. m. to 7 a. m. (relieved for midnight supper).

"The second grouping of hours (7 a. m. to 4 p. m., with one hour for dinner) is given to each nurse once a week.

"We did not take away the afternoons off duty and we kept to the custom established many years ago, of allowing each day nurse every other Sunday off duty. This amounts to exactly the same thing as giving each nurse a half day every Sunday. Moreover, we have found it possible to give all nurses, those on the 2 p. m. to 11 p. m., and 11 p. m. to 7 a. m. duty, a whole day off every other week. The day chosen was Saturday, and the 2 p. m. to 11 p. m. group go on duty one week from 7 p. m. to 7 a. m., while the following week, the 11 p. m. to 7 a. m. group are on duty all night. This means that once in two weeks the nurses have a full night of twelve hours, and also a whole day off. We feel that the occasional "long night" is good for their souls, since it tends to make them appreciative of the shorter hours.

"For the day nurses the hours on duty during a week average fifty; for the 2 p. m. to 11 p. m. group, fifty-two hours; and for the 11 p. m. to 7 a. m. group, fifty-four hours. Hence, for the three groups the average number of hours on duty weekly is fifty-two.

"Our graduate nurses are also working on the same schedule. They had given splendid service, and we could not bear to leave them out. The effect has been good. Not one graduate nurse has resigned since the shorter hours went into effect.

"If anything, it has been easier to plan for classes than before. The 2 p. m. to 11 p. m. group have had their class work in the morning, and they have a heavy program. The 11 p. m. to 7 a. m. nurses are in better shape physically for their class work whether it comes in the morning or afternoon. If they get up early for class, they can and do go to bed again after an early supper.

"How long the eight-hour system will last in this particular school is problematical. It is not accident which has given us a sufficient number of students to establish the system. That it is workable we know; and we know, too, that our students are healthier and have more time for rest and recreation. That it is risky to go against tradition we are well aware, and a school which is politically controlled represents a structure built upon sand. We need the underpinning of an aroused public opinion to help us maintain what we have built."

In conclusion, it would seem that the chief point of attack in establishing an eight-hour day is in converting the heads of our schools and those who have the ultimate control. It may be admitted that "fear" is a strong deterrent; but "the blood of the martyrs is the seed of the Church," and it is better to go down struggling for better conditions than go on fairly smoothly, maintaining the worst of our old traditions. If all women in charge of schools stood together on this one point, an eight-hour day could be established almost over night.

If you have a hospital of, say, 200 beds, with ten nurses on night duty, twelve hours a night, ten nurses in addition would enable you to establish the eight-hour night. If your total number of nurses is, say, 100, this would mean a 10 percent increase. In many cases, the change could be made by relieving nurses from much of the hospital drudgery and employing a number of maids equal to the extra number of nurses needed for night duty.

You may find that your nurses seem to have a good deal of time on their hands, but hardly "too much time for recreation." Eight hours each of work, play, and sleep, we have always heard, is a pretty good division of time. It is true that we become better acquainted with our nurses and have a better understanding of their needs when they are not so utterly exhausted by hospital work. We are dealing largely with adolescent girls and are not doing our whole duty to them when we do not help them to spend their off-duty time wisely.

Here should enter the social director. Since many schools admit girls as young as eighteen years, and since adolescence extends to the age of twenty-one, we can not escape the responsibility of planning for the off-duty time of our students. They come to us from the restrictions of home life, at the most formative period of their lives, and have heavy burdens placed upon them. The first night duty has proved to be many a young nurse's "Waterloo," and it is not fair to impose twelve hours' service upon her while she is still so young in years and experience. "No night work for minors" might be a profitable as well as a humane slogan for our schools. If we can not do away with night duty, we can at least shorten the hours. Most of us remember only too vividly the awful strain of the hours between midnight and the first glimmer of day .

We grant that arranging for three relays of nurses, afternoons and Sundays off, is not easy. One must have belief, energy, and enthusiasm. Two shifts means much less work for the executive, and, of course, there are many who still believe that a part of the training of a nurse goes to make her incapable of exhaustion. There are still hospitals which allow twenty-four-hour duty for the spe-

cial nurse, but these can scarcely be said to be abreast of the times.

In the schools that have "gone back," the reason given is that nurses do not like the eight-hour day seven days a week, but prefer their afternoons off-duty, and the extra time on Sunday. This is quite reasonable, and we maintain that, in simple justice, we should give not more than eight hours daily for five days a week, and six hours the sixth and seventh days, which gives a fifty-two-hour week for day nurses. The night nurses should have their lost time made up to them if it is found impossible to arrange for their time off, but where there is a will to plan the hours, the way is usually not entirely impossible.

## THE EIGHT-HOUR LAW AND CALIFORNIA TRAINING SCHOOLS*

### Passage of Law Results in Cooperation and Extreme Satisfaction of Hospitals—Nurse Enabled to Live a Healthy, Normal Life—An Example for Other States to Follow

The eight-hour day for student nurses in California has been in effect since August 2, 1913, and hence is far removed from the stage of experiment. It has been demonstrated that the eight-hour plan is not only possible, but profitable for the schools.

At first there was a great deal of resentment manifested by hospital and training school officials, physicians, trustees, and even by some nurses themselves. The State Bureau of Labor was responsible for assuming that student nurses might well be placed under the protection of the law because of "long hours of duty which caused the actual exploitation of students in public and private hospitals," and which "had reached notorious proportions, the greatest offenders being hospitals owned by corporations of physicians, or fraternal organizations where increased revenue to the hospital from fees paid by patients for special nursing became a recognized thing. Students almost from their entrance into the school were placed on special duty and, if particularly adapted by their personality, were kept on special duty for the major part of their training. One hospital openly acknowledged that the board of directors counted on a return of at least $1,000 per month from this special nursing."

The immediate reaction on the hospitals of the passage of this law was necessarily very marked. Students had to be removed from special duty and replaced by graduates. About one-third more students had to be admitted, and therefore more accommodations for the housing of the students had to be provided. It was at first a staggering situation for the hospitals and several small institutions were obliged to close their training schools and employ graduate nurses at once. After five years, however, many superintendents who were at first strongly opposed now express satisfaction and unwillingness to go back to the former plan, even should the law be repealed. The superintendent has represented the strategic point in all the adjustments necessary to bring about a smooth working of the law. On her alone has rested the responsibility of administration. This has required ability of no mean order. To move her students at proper times and in proper rotation, to maintain the harmonious working of all services, to keep in mind the patient and the student—the former's welfare and comfort and the latter's education—both in class and at the bedside, has taxed her ability, her foresight, and her leadership to no small degree.

The primary object of the law was in the interest of the health and morale of the students, as under the old system there was little, if any, time for rest, recreation, or study. The students paid a very high tuition for a very one-sided training, and the hospital exacted a heavy toll from these young women. Even the time of illness, often brought on by overwork, was obliged to be made up. The social life of the young student was completely submerged by her duties, and it was rarely that any provision was made for her recreation or entertainment. Under the present system there is time for class work, for study and for recreation. The leisure time, once thought fruitful for mischief, is now in the most progressive schools well looked after. Proper recreation rooms and the direction of wholesome social entertainment are found in the best grade schools. A student has time to live the life of a normal, healthy, and energetic young woman.

Admissions to the schools have increased, and women of good qualifications have not been discouraged by the fact of long hours of duty. The general health index of students has risen and, when the course is completed, they are, as a rule, in better physical condition than when they entered the school.

This demonstration of a measure which has now passed well beyond the experimental stage has given proof that the plan is possible and reasonable, and it should serve as an encouragement to other states, where students in schools of nursing are still burdened with the severely long hours of difficult duty.

Thus, in California, the Bureau of Labor accomplished in one swift stroke what apparently had been thought impossible, and, in taking hold of the situation, has shown conclusively that the eight-hour day for student nurses is wholly practical and reasonable of accomplishment.

*From an article by Anna C. Jammé, Director, Bureau of Registration of Nurses, Board of Health, Sacramento, Cal., American Journal of Nursing, March, 1919.

## SCHOLARSHIPS FOR PUBLIC HEALTH NURSES

### Demand for Nurses in Public Health Field Prompts Establishment of Fund by Red Cross—Two Courses to Be Given

The war and the recent influenza epidemic have called attention to the vital need throughout the country for public health nurses. In the hope of inducing many of the twenty thousand nurses soon to be released from the army and navy corps to take either the eight months' or the four months' course of training in public health nursing, so that future demands for such personnel may be met as far as possible, the American Red Cross has appropriated $100,000 to be used as a public scholarship fund. At the present time there are only about six thousand public health nurses in the United States, and it is hoped that many of the graduate nurses who will be released from military service may be encouraged to enter this field of work, where they are so urgently needed.

The Red Cross public health scholarship fund will be administered by the Department of Nursing. The maximum scholarship for the eight months' course is $600 and the four months' course $300. These scholarships will be granted on the recommendation of Red Cross Division Directors of Public Health Nursing and will be subject to the approval of the Department of Nursing at national headquarters. Additional recommendations will be made by a joint committee representing the three national nursing organizations through their representatives at the Red Cross Bureau of Information in New York City.

# DEPARTMENT OF DIETETICS

Conducted by LULU GRAVES.

Please address items of news and inquiries regarding Department of Dietetics to the editor of this department, Home Economics Building, Cornell University, Ithaca, N. Y.

## WOMEN COOKS FOR HOSPITAL KITCHENS

### Suggested Establishment of Army Cooking Service Brings Out Possibilities of Ranking System for Dietary Departments of Institutions—Actual Experiment Shows Superiority of Women Cooks

A timely discussion of cooks is found in a chapter of "Memoranda on Army General Hospital Administration," by various authors, edited by Lieut.-Col. P. Mitchell, M.D., R.A.M.C.

It would be interesting to know if the majority of us are in favor of women cooks in hospital kitchens.

If the establishing of an army cooking service on a basis similar to the army nursing service could be made satisfactory, what could be done in the dietary departments of our hospital and other institutions to establish a system of ranking?

#### KITCHENS AND COOKS

"Early in the war an agitation was carried on in favor of women army cooks. The reasons stated for the change where (1) waste in hospital and camp kitchens, and (2) men (soldiers) doing women's work when they were required in the fighting line. The waste was actually due to food not eaten, because it was not palatable to the new army men, who had been accustomed in civil life to more variety in their food, better cooking, and receiving it nicely served. The so-called waste was not a loss to the public purse, but to the individual soldier. The daily ration issued to each soldier is a fixed quantity, with a money allowance of about a third of the ration value to provide variety in the day's diets. If the food is not consumed, it is not a loss borne by the public; but it is a loss to the soldier, who has to make good from the canteen at his own expense, or carry on his training underfed. The popular reason for replacing male cooks by women was that the men would be available for fighting. Now, the commanding officers of our voluntary or new army soldiers invariably had their kitchen duties performed by unfits—i. e., men physically or mentally worthless for fighting. Just as a number of women are physically and mentally able to be combatants, so you find in the army a number of men who are more or less physically or mentally unfit to be combatant soldiers, and who are content in carrying on duties better suited to the average woman. Such men are usually of more value than unskilled women in the labor market, and it would be national economy if they were discharged to civil life as soon as their combatant limitations were recognized. The essential reason for having army kitchens staffed by women is that there are sufficient women available, who possess the diploma in domestic science, to undertake the 'trained' kitchen duties, and that willing, capable women, without such valuable training, are numerous enough to carry on the 'untrained' duties.

"Indifferent cooking and delayed distribution of food are as detrimental to the disabled as an inefficient nursing service. For the first fifteen months of the war I was fortunate in having fairly good male cooks in a territorial general hospital with four kitchens. As none of them were physically fit for the fighting line, I was naturally reluctant to replace them by women who were to be accepted on the recommendation of a centralized committee, and not by direct local enlistment. The general duties were to be carried on by casual women workers, obtained from the local labor exchange. Ultimately eleven cooks were carefully selected locally by a voluntary subcommittee. The benefits from the change to women cooks were obvious from the first. They were placed directly under the quartermaster, and the accounting difficulties were made easy for them. The general duties of the kitchen were also more satisfactorily performed by the untrained women than by orderlies; and only one orderly was considered necessary in a kitchen, for heavy lifts and as a butcher.

"There is no reason why those on duty within all army hospital kitchens should not be women, each kitchen being under a head-cook, who would be responsible through the quartermaster for accounting and the technical fitness of her staff, and to the matron only for discipline. It would be more satisfactory establishing an Army Cooking Service on a similar basis to the Army Nursing Service, with grades of pay and allowance, the 'trained' members to be confined to those possessing a recognized certificate in domestic science, and the 'untrained' to be posted from the Red Cross committees."

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## THE REQUIREMENTS OF A GOOD COOK

### Examination Reveals the Fact That Nine Out of Ten Cooks Lack Necessary Qualifications—Safe Cooking Essential to Maintenance of Good Health

Jane Eddington, of the Chicago *Tribune*, expresses her opinion on the status of the cook in a most emphatic manner. She says she has changed from a college teacher and writer to a cook and is willing to be known as "a cook par excellence." She tells some of the things she has found which are all too true and which may be as applicable to hospital kitchens as to the ones referred to in public schools and elsewhere. In the following extracts from her department are some points well worth giving thought to.

#### CARELESS ABOUT CLEANLINESS

"Lately I have visited some public school work. The work looked about as poor as it could be. Every operation going on was conducted in a slovenly way. One of the girls was preparing celery for creaming. The stalks were exceedingly muddy, and she was cutting them up without first washing off the mud. The compost in which such things grow is rich in hundreds of kinds of objectionable dirt. Each stem of that stalk of celery should have been carefully washed and lightly scraped before it was cut, thus saving all those cut ends from contamination.

"As I have rushed from city to city in a sort of tour of examination lately, I have been surprised to see how little influence the teaching about clean hands, given such wide publicity such a short time ago, has had. I have to refuse to think when I eat in certain places, and I am astonished that this simple elemental fact, which used to be taught as a social amenity, seems never to be thought of by scores of people who handle cooked foods.

"It is a sad thing, and then again laughable. I heard this anecdote not long ago. A hermit was quizzed about his cooking and asked if he ever used cook books. He replied that he did not think much of these. He said he had bought one once, but the first statement, 'Take a clean dish,' showed how worthless it was.

#### COOK'S FIRST REQUIREMENT

"My first requirement of cooks would be that they should have some sanitary knowledge. By this requirement I shut out nine-tenths of those who are classed as cooks. I could give a long list of illustrations to show why they have no such knowledge. In some of their operations they act as though they had—as, for instance, in cutting up a chicken or removing all the meat without first drawing it. In canning chicken this is considered the only safe way to proceed. In great kitchens—kitchens presided over by chefs—it may constitute one of the great extravagances which are all too common and which seem inevitable to not-too-well-trained people who must serve large numbers.

"There is great hope for cooking when people realize that only by safe cooking and right eating can health be maintained over long periods of time. More and more are people becoming conscious of lowered states of endurance, of states that stop short of prostrating illnesses, and more and more they are learning how to keep resistance high, not only by exercise and out-of-door air, but by what is more fundamental, through food, the right food correctly prepared and eaten in correct proportions and combinations.

EASIER WAYS IN MODERN KITCHEN

"It is possible today to have beautiful and more efficient cooking utensils than were formerly possessed except by great kitchens, where no expense was spared that gourmands might have pleasure and continue the tradition that eating good food is a most sinful indulgence.

"Running hot water in the kitchen sink has lessened the task of dish-washing 75 per cent. Those who complain of this work today have not given intelligent attention to mastering it. Elbow room may be scanty in our modern kitchens, but, as a consequence, about three-quarters of the energy formerly used in traveling over the floor is saved, whether we wash dishes or get a dinner.

"Some of the people most greedy to eat that I know of in the world are the most unlovely of mind and ultimately of body. If they had but turned that ever lively interest they have in food to creative effort concerning it they would not be the gross, selfish, unattractive people they are. Food takes a fair revenge upon them.

"We must eat. We may like to eat. We can not be highly intelligent about eating unless we know how food is prepared. Perhaps from these statements we might formulate a definition of what a cook is."

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### Special Field Work Course in Home Economics

The committee of home economics of the Charity Organization Society of New York City is planning to organize a course of field work which may be of interest to many dietitians. For those who are planning to enter social welfare work, either in the social service departments of a hospital or in the social welfare department of a city, it would seem that this course would be valuable.

Miss Cora M. Winchell of Teachers' College is chairman of the sub-committee in charge of this course, and the other members of the committee are Mrs. Rose, of Teachers' College; Miss Lord and Miss Jessie Long, of Pratt Institute; Mr. Porter R. Lee, of the New York School of Philanthropy, and Miss J. C. Colcord and Miss Emma A. Winslow, of the Charity Organization Society.

The following announcement of the course has been received at this office:

The aim of the course is to bring students, teachers, and other workers in home economics into closer contact with home living conditions in industrial neighborhoods and with the methods by which various social agencies are endeavoring to raise home standards and prevent personal and family breakdowns.

Admission requirements are as follows: (1) members must have completed at least three years in advance of high school in an accredited institution and must be specially recommended by the department of home economics in the institution from which they apply; or they must be well qualified by home economics training plus successful experience in teaching or other professional work.

The size of the group is limited to twenty-five. Application for membership should be in the hands of the committee by May 15.

There are no fees connected with the course.

It will be given from June 9 to July 5, 1919. The hours will be from 9 a. m. to 5 p. m., Mondays to Fridays, and from 9 a. m. to 12 m. Saturdays.

Four days a week will be spent in carefully planned and supervised field work with one of a group of specially selected social agencies in New York City. One day a week will be used for lectures, discussions, and visits to institutions or social agencies doing work of immediate interest in connection with home economics. One-half day a week will be used for round table discussions of field work experiences.

Teachers College, Columbia University, has agreed to give graduate and undergraduate credit for the course, the amount varying according to quality and amount of student's work as indicated by reports of supervisors and by student's diary record of work performed. Teachers College credit is to be 3 to 5 points (1 point=1/124 four-year course leading to B.S. degree). It is hoped that other colleges will be willing to make similar credit grants.

For further information and application blanks write to Miss Emma A. Winslow, secretary, Committee on Home Economics, Charity Organization Society, 105 East 22nd Street, New York City.

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### NEWS NOTES OF DIETITIANS

At a number of round-table discussions which have been held by dietitians at various times and places during the past year, the interest and enthusiasm have become so great that it was not an easy thing to bring the meeting to a close. This proves conclusively that we are all glad to hear what others are doing and how they are doing it. As it is not possible for all of us to attend all meetings, why not have this interchange of ideas through some other medium? Repeatedly, the request has been made that this department be used for just such purpose. Imagine the rejoicing over two voluntary contributions received during the past month! Two in one month! After two years of effort on the part of the editor! We feel much encouraged. Surely some one else has a bit of information to give, or a problem which a general discussion would help solve.

Miss Rena Eckman, collaborator with Dr. Hill in "The Allen Treatment of Diabetes," has accepted the position of manager of the Foote Hospital, Jackson, Mich.

Miss Root, dietitian at Orthopedic Hospital, New York City, has been given the rank of assistant superintendent.

At the last meeting of the Baltimore Dietitians' Club, Dr. Moss, superintendent of Hebrew Hospital, spoke on "The Hospital Accounting System." At a recent meeting, Dr. E. V. McCollum, of the School of Hygiene and Public Health, Johns Hopkins University, spoke on the "Newer Knowledge of Nutrition" before a group of sixty. The members of the newly organized Home Economics Association of Baltimore were guests of the evening.

The dietitians of Baltimore are fortunate in being able to attend the course in nutrition given by Dr. McCullom at the School of Hygiene and Public Health during this semester.

Miss Anna Ruhl, of Manheim, Pa., was appointed dietitian at the South Baltimore Hospital the first of December. She is a graduate of Hood College, Frederick, Md.

Miss Marie Mount has recently finished a survey at St. Mary's Seminary, Baltimore, of their dietary department. In consequence many changes are to be made as to equipment, and a new bakery is to be installed. St. Mary's Seminary is one of the oldest training schools for priests in the United States. Their dietary department is in charge of the Sisters of Divine Providence.

Miss May Foley, who has been dietitian in the base hospital at Fort Riley for more than a year, has been released from the service. Miss Foley's work at Fort Riley was done in such a creditable manner that special mention of it has been made by both the Red Cross and the army inspectors.

Miss Anne Upham, who went overseas as dietitian with the Lakeside Hospital unit, has returned to this country. Miss Upham was one of the first dietitians to go to France. Her work and the attention it attracted in the British hospitals has been noted before in these columns.

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In the April number of THE MODERN HOSPITAL, the article entitled, "Once More—The Banana," contained a picture which really illustrated a serving of baked banana (Fig. 3) instead of the serving of apple and banana pudding as was indicated in the description.

# LETTERS TO THE EDITOR

### A Nurse Speaks on the Nursing Question

To the Editor of THE MODERN HOSPITAL:

Your editorial in the April issue of THE MODERN HOSPITAL, "Nursing in Families of Limited Means," has caught my attention. Your remark that "unfortunately discussion of the question has, in some local instances, at least, resolved itself largely into recriminations between physicians and nurses" is quite true in too many instances, but what seems to me to be even more deplorable is the fact that it has gone further than that. It has involved hospital authorities and patrons on the one side, and representative nurses and nursing organizations on the other.

In your promised further discussion of "remedies" I hope you will emphasize the power of the community (in the broad sense) in all this. The community has been too prone to accept the view that health measures—let them be exercised by the doctor or nurse—are not its (the community's) business.

This question of nursing is surely another result of demand and supply, and the losers or gainers from its operation are the people; therefore each community, of whatever nature, should be vitally interested.

I can not imagine any well-informed person being unwilling to admit that the preparation of women to do nursing comes within the realm of the educational, which, of course, implies the recognition of standards. But this does not bar provision for different grades of work.

While I am a nurse, my work for the past eighteen years has been that of superintendent of both hospital and school; hence, I feel I can see all sides of the question rather more clearly than those nurses who have occupied positions in the school only. And I cannot rid myself of the belief that much of the difficulty in working out these problems arises from a failure on the part of all concerned to secure an all-around point of view. Why should so much time and energy be wasted in, as you say, "recriminations" and criticisms that are anything but constructive?

The development of nursing may be represented in epochs, the first being the introduction of schools of nursing into the hospitals, which brought about wonderful developments in medicine and surgery. Second came what I frankly call the epoch of exploitation, meaning by this that, in the reaction from the nursing (?) of the pre-training school period, the nurse, in a large measure, came to be regarded as a part of the hospital machinery and (I know whereof I speak) was worked hard, fed and housed poorly. Many a hospital, sending out its prospectus describing its course of instruction, failed to provide for the carrying out of its promise. No one can deny that a reaction from these conditions was inevitable, and this reaction naturally led to the next, or third, epoch, which may be described as the period of standardization, and which, as we all know, has brought both desirable and undesirable results. While not claiming perfection on the part of the nurses, I can not in honesty endorse much of the opposition they have met in their efforts to secure better standards, which efforts have, it is obvious, benefited the hospitals at the same time. And *now* we apparently have reached the fourth epoch, for which I know no better name than that of readjustment, in which there *must be a coming together.*

When a man has a critical illness visited upon him he should have skilled nursing, no matter whether he has a fat or lean purse. He never will have it if he belongs to the "moderate means" class, however, so long as the problem is regarded as the sole responsibility of either doctor or nurse.

The mistake we are making in our study of the question is to regard it as the responsibility of individuals or certain groups of individuals, rather than that of the community.

The movement now being made in this state (New York) to provide "health centers" would seem to indicate that there is an awakening along the line of supply as to nursing as well as to providing medical care.

NANCY E. CADMUS, R.N.,
Superintendent Manhattan Maternity and Dispensary.

* * * *

### Elementary Nursing Course in Public Schools

To the Editor of THE MODERN HOSPITAL:

Every woman should know something about nursing. The ignorance along these lines among the educated, well-to-do is simply appalling. Why not have a course of nursing principles, similar to the course in "Elementary Hygiene and Home Care of the Sick," given now by the Red Cross, taught in the public schools? If made compulsory in the eighth grade and in the first year of high school, this ought to insure better hygiene in the homes within a generation and be of inestimable help during an epidemic.

A REGISTERED NURSE.

* * * *

### An Error Corrected

To the Editor of THE MODERN HOSPITAL:

In my article, "The Dictaphone in the Hospital," published in the January issue, I inadvertently used a trade name. While I have no desire to discriminate against the Dictaphone. will you be good enough to insert a correction to the effect that it is the Ediphone that we are using, and not the Dictaphone?

I think this only justice to the machine that we are using.

F. E. CHAPMAN,
Superintendent, Mount Sinai Hospital, Cleveland.

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### Bonus for Discharged Service Men and Nurses

The Red Cross is trying to spread the information regarding the provisions of the new Revenue Bill for a $60 bonus to be paid to all soldiers and nurses discharged since April 1, 1917.

As many soldiers were discharged prior to the passage of the bill, the War Department is anxious that information regarding the bonus should be disseminated as widely as possible. Those who are discharged hereafter will receive this bonus on the same roll or voucher upon which they are paid their final pay.

---

Vigor is contagious; and whatever makes us either think or feel strongly adds to our power and enlarges our field of action.—Emerson.

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If you want things done, call on a busy man; the man of leisure has no time.

# BULLETIN OF THE AMERICAN HOSPITAL ASSOCIATION

*Offices:*
728 Seventeenth Street, Washington, D. C.
308 Anisfield Building, Cleveland, Ohio
Monthly Bulletin issued by the Executive Secretary
308 Anisfield Building, Cleveland, Ohio
HOWELL WRIGHT Executive Secretary

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Dr. Robert J. Wilson
Mr. Howell Wright, Secretary

## Institutional Membership

PLEASE SEND IN YOUR APPLICATIONS

Since publication of the last Association bulletin, applications for institutional membership have been received from the following:

| | |
|---|---|
| General Hospital | Saranac Lake, N. Y. |
| Alliance City Hospital | Alliance, Ohio. |
| Eye and Ear Hospital | Pittsburgh, Pa. |
| Lankenau Hospital | Philadelphia, Pa. |
| New York Nursery and Child's Hospital | New York City |
| Staten Island Hospital | Tompkinsville, N. Y. |
| Barnes Hospital | St. Louis, Mo. |
| Bronson Hospital | Kalamazoo, Mich. |
| Central Free Dispensary | Chicago. |
| Children's Homeo Hospital | Philadelphia, Pa. |
| Cottage State Hospital | Philipsburg, Pa. |
| Highland Park Hospital | Highland Park, Mich. |
| Hurley Hospital | Flint, Mich. |
| Metropolitan Life Sanatorium | Mt. McGregor, N. Y. |
| Middlesex General Hospital | New Brunswick, N. J. |
| Milwaukee's Children's Hospital | Milwaukee, Wis. |
| Mount Sinai Hospital | Milwaukee, Wis. |
| New England Deaconess Hospital | Boston. |
| New York Post Graduate Hospital | New York City. |
| Santa Filomena Sanatorium | San Francisco. |

The membership committee has approved the membership applications of the first ninety-eight hospitals. Membership certificates are being prepared and will be sent out to these institutions at the earliest possible moment.

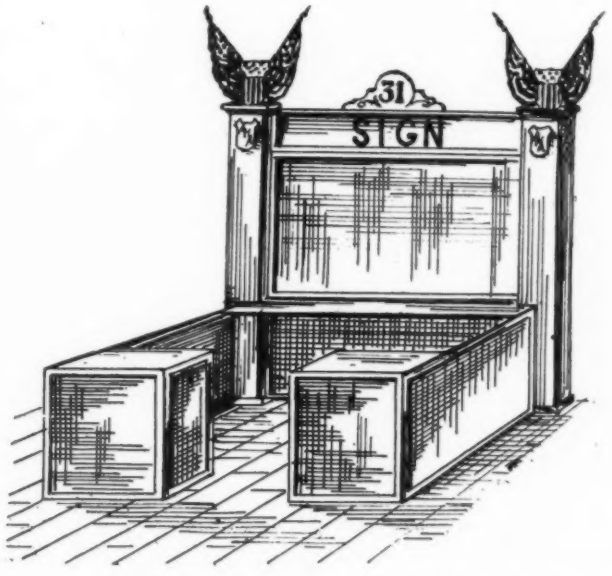


Fig. 1. Booth to be used in the commercial exhibit of the American Hospital Association at its annual convention in 1919.

Fig. 2. Hotel Gibson, Cincinnati, Ohio, where the Twenty-second Annual Convention of the American Hospital Association is to be held Sept. 8-12, 1919.

## Meeting Board of Trustees American Hospital Association

The meeting was held March 17, 1919, at Hotel Gibson, Cincinnati, O. Those present were: Dr. Warner, Mr. Bacon, and the secretary.

The question of lack of a quorum was not raised, but it was understood that the minutes should be submitted to the other members of the board of trustees not present for approval.

The minutes of the last meeting of the board of trustees, September 27, 1918, were read and approved.

The following telegram, which was not entered in the

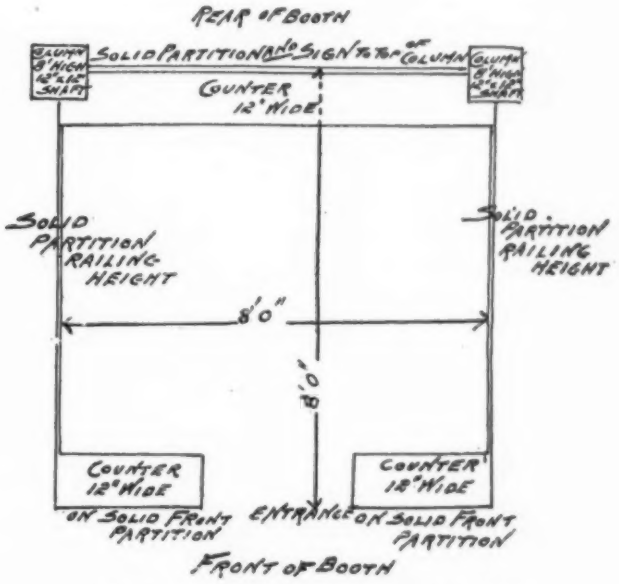


Fig. 3. Plan of booth for commercial exhibit.

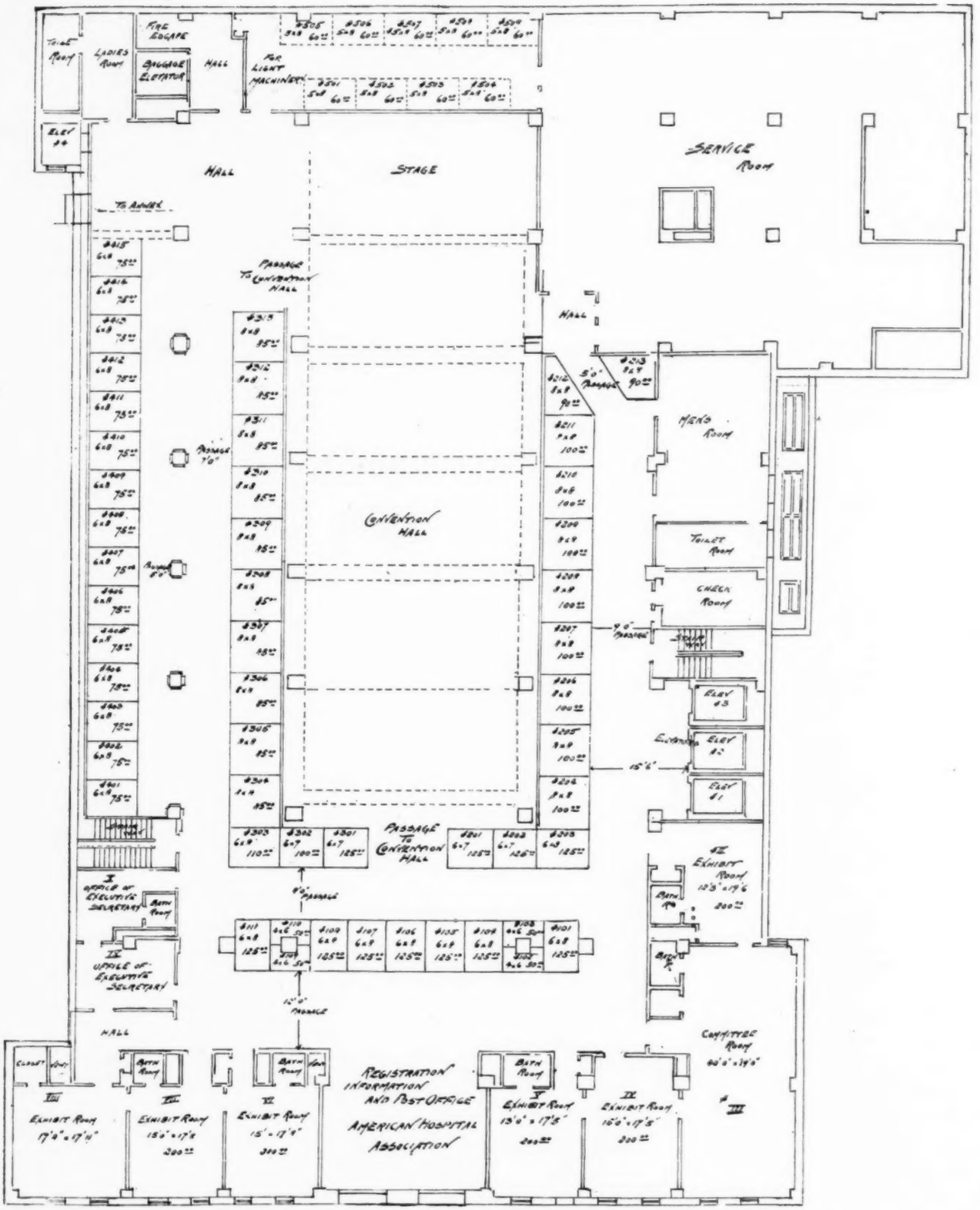


Fig. 4. Ground floor and ballroom of the Hotel Gibson where the commercial exhibit of the American Hospital Association meeting is to be held.

minutes of the September, 1918, meeting of the board, was received and placed on file:

American Hospital Association,
Care of Howell Wright, Cleveland,
Accept my resignation secretary recommend Howell Wright best wishes.
WALSH.

The president presented a telegram from and correspondence with Colonel Walsh relative to his reinstatement as secretary of the American Hospital Association. It was the consensus of opinion that there was no vacancy and, therefore, no action was taken.

### 1919 Convention

The president reported that the Section on Nursing had not elected a chairman at the 1918 convention and there-

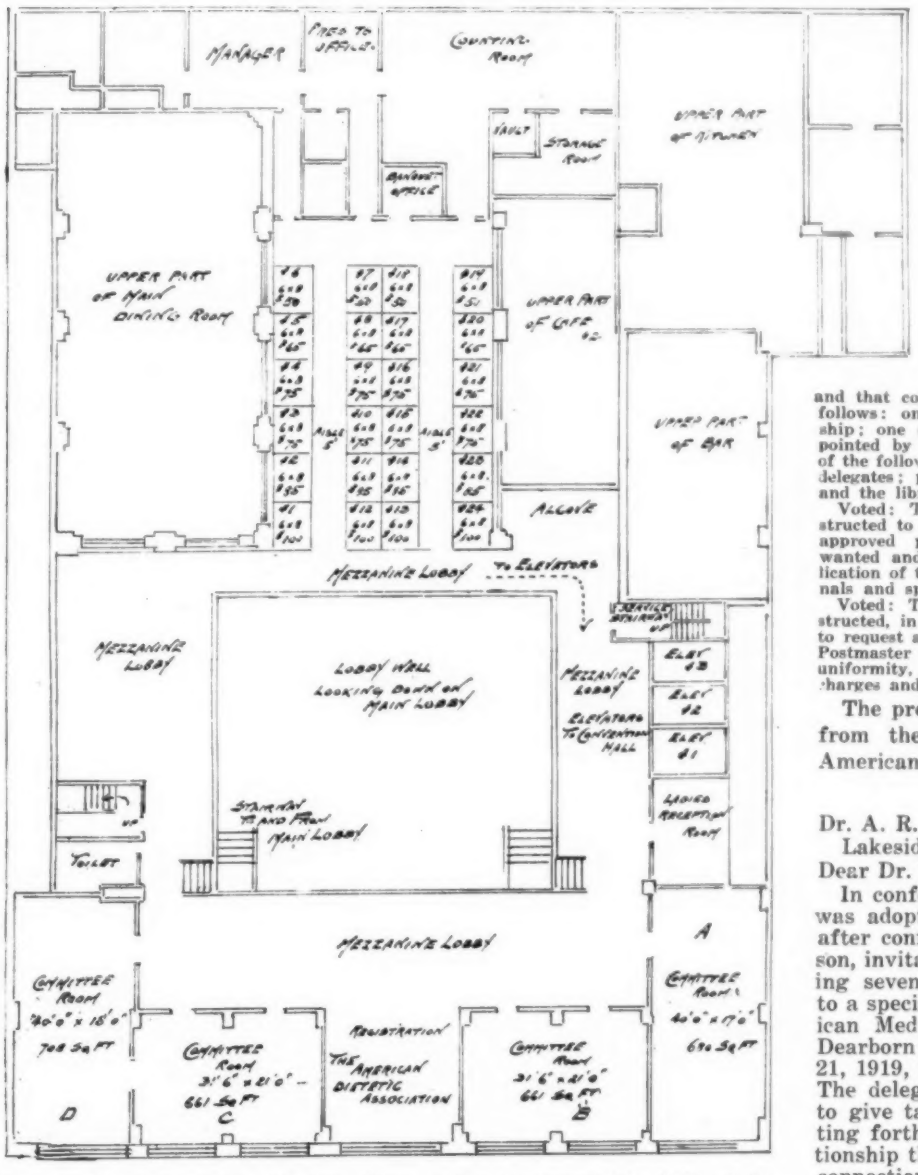


Fig. 5. Mezzanine floor of the Hotel Gibson, where the commercial exhibit of the American Dietetics Association is to be held.

fore he had requested Miss E. M. Lawler, superintendent of nurses, Johns Hopkins Hospital, to act as chairman.

The president presented various points for discussion and decision for his guidance. The following actions sum up these discussions:

Voted: That each section be limited to one general meeting at the 1919 convention unless some special reason shall make necessary in some instances more than one.

Voted: That one evening be devoted to the discussion of various hospital problems and that Mr. Asa S. Bacon act as chairman of the meeting. This action was prompted by the successful meeting of hospital superintendents and others held at Atlantic City, which was really a round table discussion and at which those present presented for consideration such subjects as they wished.

Voted: That the association again request the governors of the various states to appoint delegates to the convention; to provide them with credentials and that there be special registration for such delegates; that there be a special meeting of such delegates arranged as a part of program.

Voted: That a letter be sent by the American Hospital Association, as heretofore, to the presidents of the boards of trustees of the various hospitals, urging that the hospital pay the expenses of their delegates to the convention.

Voted: That social and health insurance be given an important place on the program.

Voted: That the secretary be and is hereby authorized to enter into a contract with G. K. Anderson, convention reporter, to report the proceedings of the convention and its various sections, on the best terms.

Voted: That, so far as possible, there be no more than two twenty-minute papers read at a general session: that every effort be made in advance to promote discussion; that, so far as possible, persons be assigned in advance to open discussion of papers read.

Voted: That arrangements be made for an exhibit of hospital plans, blue prints, pictures, sketches and models, in cooperation with the Section on Hospital Construction, similar to the exhibit at the 1917 convention.

Voted: That the secretary be and he is hereby instructed to send bulletins of the Association to THE MODERN HOSPITAL, *Hospital Management*, *Southern Hospital Record*, and, when proper, send such bulletins to other journals, including medical and nursing journals, and when advisable to prepare a special bulletin of the work of the association for such journals. It was the consensus of opinion that, while all bulletins issued should contain complete information about the work of the association and its various sections and committees, they should also contain information about the public health and hospitals in relation to public health.

Voted: That the proposal to have the 1918 proceedings published by The Modern Hospital Publishing Company be and the same is hereby approved, and that copies be distributed so far as possible as follows: one copy to each personal paid-up membership; one copy to each of the three delegates appointed by institutional members; one copy to each of the following when not included as one of the three delegates; president, superintendent of the hospital, and the librarian.

Voted: That the secretary be and he is hereby instructed to promote so far as possible the previously approved policy of registering hospital positions wanted and hospital positions vacant, and the publication of the same through the various hospital journals and special bulletins of the association.

Voted: That the secretary be and he is hereby instructed, in cooperation with Mr. Cornelius S. Loder, to request a hearing before the proper division of the Postmaster General's Department on the question of uniformity, of standardization of hospital rates and charges and telephone service.

The president presented a communication from the Council of Medical Education, American Medical Association, as follows:

March 14, 1919.

Dr. A. R. Warner, Supt.,
Lakeside Hospital, Cleveland.

Dear Dr. Warner:

In conformity with your resolution which was adopted at our recent conference, and after conferring with Drs. Bevan and Dodson, invitations are being sent to the following seven organizations to send delegates to a special meeting to be held at the American Medical Association building, 535 N. Dearborn street, Chicago, on Monday, April 21, 1919, the session to begin at 10 o'clock. The delegates are asked to come prepared to give talks of about fifteen minutes, setting forth the particular interest and relationship their various organizations have in connection with hospitals and their standardization.

American Hospital Association
Federation of State Medical Boards of the U. S.
Association of American Medical Colleges
American Association of Hospital Social Workers
American Association of Nurses
American College of Surgeons
Catholic Hospital Association

Other associations considered were the American Public Health Association, American Dietetic Association, and the American Association of Industrial Physicians and Surgeons. In case you think it is particularly important that any of these, or any other organizations, be requested to send delegates to this preliminary meeting, please let me know by return mail or by night letter collect. It was thought, however, that the first committee should not be made too large.

I understand from Dr. Bevan that you will represent the American Hospital Association. We particularly desire to have you present.

N. P. COLWELL, Secretary,
Council on Medical Education.

Voted: That the president be and he is hereby instructed to represent the American Hospital Association at this conference.

Voted: That the proceedings for 1918 shall also include the following: personal membership list, corrected up to date; list of conventions with officers; list of life members; registration at 1918 convention; and applications for institutional membership up to date.

The board of trustees were entertained by the local executive committee and discussed local plans for the con-

vention. They also inspected the hotel and were made familiar with the facilities for entertaining the convention and the plans for the commercial exhibit.

The executive secretary made a verbal report of the work of his office since the last meeting of the board, including results of the institutional membership campaign, work of the Legislative Committee, etc.

Voted: That the report of the auditor, Mr. Robert Hamilton Smith, be approved and published in the next bulletin of the association.

The meeting adjourned.

### Statement of Receipts and Disbursements for the Year Ending December 31, 1918

| | | | |
|---|---|---|---|
| Balance on hand Jan. 1, 1918 | | | $ 4,422.98 |
| **RECEIPTS** | | | |
| Active Membership Fees | $3,970.00 | | |
| Associate Membership Fees | 470.00 | | |
| Life Membership Fees | 250.00 | $4,690.00 | |
| Commercial Exhibits | | 5,319.00 | |
| Contributions | | 155.20 | |
| Interest on Deposits | | 42 23 | |
| Miscellaneous Receipts | | 40.76 | |
| Total Receipts | | | $10.247.19 |
| | | | $14,670.17 |
| **DISBURSEMENTS** | | | |
| Administrative expenses: | | | |
| Office of president— | | | |
| Traveling expense | | $ 275.78 | |
| Office of treasurer— | | | |
| Supplies | | 4.68 | |
| Office of secretary— | | | |
| Salaries | $2,625.00 | | |
| Supplies | 1,085.18 | | |
| Traveling expense | 860.49 | | |
| Office equipment | 74.00 | | |
| Transactions of American Hospital Association | 1,198.11 | | |
| General expense | 547.67 | 6,390.45 | |
| Convention expenses— | | | |
| Commercial exhibits | $1,715.85 | | |
| General expense | 2,523.89 | $4,239.74 | |
| Committee expenses— | | | |
| Committee on war service | $ 465 24 | | |
| Committee on out-patient work | 125.71 | | |
| Committee on accounting | 32.48 | $ 623.43 | |
| Liberty Loan Bonds | | $ 550.00 | |
| Total disbursements | | | $12,084.08 |
| Balance on hand December 31, 1918, distributed as follows: | | | $ 2,586.09 |
| On hand | | $ 2.42 | |
| In bank | | $2,583.67 | $ 2,586.09 |

This certifies that the above statement of receipts and disbursements of the American Hospital Association is a true statement of the cash received and disbursed from January 1, 1918, to December 31, 1918.

ROBERT HAMILTON SMITH, Accountant.

### Announcement of Commercial Exhibit

The Hotel Gibson will be the headquarters of the Twenty-first Annual Convention of the American Hospital Association. The commercial exhibit, postoffice, information and registration bureau, and non-commercial exhibit, will be located on the ball room floor. General sessions and the majority of section meetings will be held in this hotel.

The American Dietetic Association will again meet jointly with the American Hospital Association. Its commercial exhibit, and its information and registration bureau will be located on the mezzanine floor. The general sessions and section meetings will be held in the Hotel Gibson.

Those desiring space should communicate with the Executive Secretary, 308 Anisfield building, Cleveland, Ohio. Only such firms will be admitted as subscribe to the requirements and regulations.

This joint convention affords a splendid opportunity for manufacturers to exhibit their products before the trustees, superintendents, superintendents of nurses, dietitians, and stewards of American hospitals.

# DISPENSARY AND OUT-PATIENT WORK

Conducted by MICHAEL M. DAVIS, Jr.
*Director of the Boston Dispensary.*

Please address items of news and inquiries regarding Dispensary and Out-Patient Work to the editor of this department, 25 Bennett street, Boston, Mass.

## THE NEED OF HOSPITAL BEDS FOR SYPHILIS

### General Aspects of Hospital Problem of Syphilis—Contributions General Hospital Should Make to Management and Care of the Disease—Bed Requirements of the Work

BY JOHN H. STOKES, M.D., Head of the Section of Dermatology and Syphilology, Mayo Clinic, Rochester, Minn.

The problem of the care of syphilis is rapidly passing from obscurity into the limelight of a public health issue. Thanks to the vigorous backing of Federal and state governments, the time will soon be past when it will be either expedient or possible for anyone engaged in an activity involving the care of the sick to ignore the issue or refuse to make provision for it. Realizing the recent rapid change in point of view toward such questions, the American Hospital Association is urging institutions all over the country to take an active interest in the care of genital infections and to cooperate with the Federal program in developing appropriate facilities. The question at once arises as to what are appropriate facilities and what part the hospitals of the country shall play in supplying them; and it is with a view to contributing something as an answer to this question that the director of the Boston Dispensary has asked me to discuss the need of hospital facilities for the care of syphilis.

On several previous occasions[1] I have attempted to outline general aspects of the hospital problem of syphilis. The existence of such a problem is now well established, and its importance can be inferred from the very large part hospitals play in the national program of Great Britain, as developed by the Sydenham Royal Commission and placed in actual operation by the British local government boards. It is noteworthy that responsibility in this remarkably conservative and yet complete program is squarely placed, not upon special venereal or segregated hospitals, of which the commission expressly disapproves, but upon the general hospitals of Great Britain. Syphilis is a problem for the general hospital, which already treats the condition all the time under one disguise or another, scattering its various manifestations through perhaps acres of wards and a multiplicity of services, and either ignoring its existence or employing a variety of therapeutic methods second in number and variety only to the number and variety of the patients themselves. It has never really been a question with the general hospital whether it would permit the importation of the disease

1. Stokes, J. H.: Treatment of Syphilis in a General Hospital, THE MODERN HOSPITAL, March, 1916, vi. 171-176; The In-Patient Hospital in the Control and Study of Syphilis, Social Hygiene, 1916, ii, 207-231; Hospital Problems of Gonorrhea and Syphilis, Jour. Am. Med. Assn., 1916, lxvii, 1960-1962.

into its precincts, since such importation, often in the most contagious because least recognized form, is a constant element in all hospital work.

The best available evidence of the extent of the hospital problem of syphilis is contained in Wassermann surveys upon groups of in-patients on various large representative services in this country.[2] Estimates of its prevalence in hospital populations range from 6 to 25 per cent, depending, of course, to no small extent upon the types of patients dealt with, and involving also a certain element of inaccuracy inseparable from the shortcomings of the Wassermann test as a means of identifying syphilis. It may be taken, however, that a range of from 6 to 10 per cent of all patients admitted is conservative for the average hospital. More, rather than less, syphilis will probably be identified in hospital populations, as other aids, including expert syphilological and spinal fluid examinations, are invoked.

Since the figures given deal with the bed services of hospitals, they are apropos in a consideration of the duty of a hospital to provide beds for syphilis. The estimates quoted demonstrate, by the very fact that the patients included in them occupy beds, the fact that there is such a thing as a bed problem in the management of syphilis. The ambulatory conception of the disease has unfortunately in this country overshadowed the appreciation of the very just claim of this most serious infection to adequate provision for its victims in the wards and rooms of hospitals. Since I have discussed them elsewhere, I merely summarize here categorically the eight ways in which the general hospital should contribute to the management of syphilis and derive reciprocal benefit from the relation.

1. Syphilis is often recognized by the hospital serologist when no other signs present themselves. The hospital serologist, by reason of training and environment, is specially fitted to be the performer of an authentic and trustworthy Wassermann, which is badly needed in these days. Of 500 patients examined by Horner (Boston City Hospital), 16 per cent had syphilis, although only 2 per cent had been identified by other means than the Wassermann.

2. Syphilis needs, for the proper care of its medical, surgical, neurological and special complications, the prolonged observation, cooperative diagnosis, and control which only a stable, well-organized hospital service can supply.

3. The actual technique of the intensive treatment of syphilis requires beds. Therapeutic control, a low mortality, and the successful management of the very sick patient, which is much commoner in syphilis than is generally realized, all demand something more than ambulatory facilities.

4. The hospital bed service is needed for a brief but necessary quarantine, which can be carried out without the slightest risk to other patients or the medical and nursing staff.

5. Well-organized treatment for syphilis, such as a hospital service can provide, has the same value in syphilis as sanatorium care has in tuberculosis. It is a factor in inculcating a sense of social responsibility in the patient and in encouraging ideals of rehabilitation and cure.

6. Organized hospital care of syphilis provides centers for the follow-up control so essential in the disease, for the development of the record systems, and for the outside professional cooperation essential to adequate treatment.

7. The hospital service provides the only place in which syphilis can be made a subject of thorough study and research.

8. The existence of a specially organized service for syphilis is of material assistance to any hospital group of diagnosticians in the prevention of blunders which arise from overlooking syphilis as a factor in diagnosis, and in the protection of staff and patients from the dangers attendant upon the admission of unrecognized contagious cases to wards and operating rooms without adequate supervision.

On each of these points it is possible for any active syphilological service to supply an abundance of concrete evidence. I have seen three extragenital infections in one year in the surgical personnel of a five-hundred-bed hospital, all of which could have been prevented had there been adequate diagnosis of syphilis. The diagnostic blunders of a staff which lacks a syphilologist and a syphilological service to put an edge on the recognition of the disease are often serious, but are properly the subject of a medical rather than a general presentation. Emphasis should be placed on the need of beds for intensive treatment. The administration of arsphenamin has enough complications and enough serious effects, direct and indirect, to justify the same period of hospital observation as a tonsillectomy. The really intensive treatment of syphilis, if carried out by a dispensary, must either subject the patient to unreasonable risk, or sacrifice effectiveness by reductions in dosage and loss of therapeutic control.

### THE BED REQUIREMENTS OF SYPHILOLOGICAL WORK

How many beds are needed to meet the requirements of a service for syphilis? To show the inadequacy of existing provision, in general, the authoritative estimate of Pontoppidan, based on a very large Danish experience, should be recalled. For all the genital infections, there should be an average provision of one bed for each two thousand population. The existing situation in large cities more nearly approaches one bed to ten thousand population. As directly applicable to hospital and group practice, my own study of this question with respect to syphilis has led me to suggest the following basis for estimates: The number of beds required for syphilis will vary with the type of hospital and with its clientele, but it is conservative to estimate that the average hospital will be called upon to deal with at least a 6 per cent proportion of syphilis among its patients. Time is a factor in the number of beds required. Where five patients are confined to hospital six weeks apiece, they occupy as much per annum bed space as thirty patients who stay only one week. Under a properly organized system, the "turn-over" of average syphilis in a hospital can be rapid and can, in my experience, be reduced to about seven days of hospital residence per patient, per course. If courses are repeated it will be necessary to regard the returning patient as a new patient in estimating the bed capacity required.

2. Positive Wassermann tests in patients on various hospital services revealed the following percentage of syphilis:
28 per cent of 101 children examined at the Children's Memorial Hospital, Chicago.
31 per cent of 111 children admitted to the Children's Hospital, Boston. (Lucas, W. P.: Bost. Med. and Surg. Jour., 1913, clxix, 423-424.)
24.7 per cent of 312 cases, Boston Marine Hospital. (Public Health Reports No. 27, Cited in Jour. Am. Med. Assn., 1916, lxvii, 1821.)
15 per cent of 4000 hospital patients, Peter Bent Brigham Hospital (Walker, I. C. and Haller, D. A.; Jour. Am. Med. Assn., 1916, lxvi, 488-491.)
16 per cent of 500 patients, Boston City Hospital. (Hornor, A. A.: Bost. Med. and Surg. Jour., 1916, clxxiv, 194-195.)
11.3 per cent of 160 pregnant women in Cook County Hospital, Chicago. (Falls, F. T., and Moore, J. J.; Jour. Am. Med. Assn., 1916, lxvii, 574-579.)
6 per cent of 2000 patients in the gynecological service of the University Hospital, Ann Arbor, Michigan. (Peterson, R.: Surg., Gynec. and Obst., 1916, xxiii, 280-283.)

On the 6 per cent basis, a general hospital receiving 7,000 patients annually will admit about 500 patients with syphilis, who, on a basis of one week's stay, will maintain a service of ten beds. As a matter of fact, the percentage of "sick" syphilis admitted to a general hospital may be higher and turn-over will be delayed, so that the bed requirement will probably be nearer fifteen than ten beds. In my experience with various hospital services for syphilis these estimates seem to work out well in practice. For a service seeing 1,500 syphilitics annually, thirty beds is none too large an allotment. On the service of the Section of Dermatology and Syphilology of the Mayo Clinic, treating from 1,500 to 1,800 syphilitics per annum, thirty beds exclusively for syphilis are proving inadequate to the requirements. The majority of these patients are treated on the basis of six hospital days apiece, per course. In such a service, combining dermatology and syphilis, so that practically all aspects of the latter disease from the earliest to the latest stages are represented, 3,600 to 4,000 patients a year require fifty to sixty beds in order to give proper care to every type of case. The two thousand syphilitics in such a service require about thirty-five to forty of the beds.

The care of syphilis under any circumstances embraces an ambulatory as well as a hospital phase. The former is represented in a way by the consultant's offices, as in the Mayo Clinic, or by the dispensary. The latter centers in the hospital. To achieve maximum harmony and efficiency, in- and out-patient phases must be under the same chief and the same staff. This fusion of office and hospital work into one, is spoken of elsewhere as "unit organization." Every service for syphilis must choose its clientele within fairly well-defined limits. Free service and night clinics attract a certain group and repel another. Coordinated, organized, large-scale pay service, as in a group practice, is attractive and acceptable to another large body of patients, but repels those who demand and can pay for the exclusive attention of a specialist, though the latter may be medically the less efficient of the two. The success of any service for syphilis will be proportional to the extent to which it individualizes its patients, and the amount of individualization necessary will increase proportionally to the social status of the clientele. In a public service, with its stalls and booths, its line-up and publicity, individualization is at its lowest. In the pay clientele of a large group practice the extent to which individualization and special consideration for the patient can be carried will determine, in the last analysis, the drawing power, the influence, and the patronage of the service. To secure such intensive individualization, unit organization is a *sine qua non.*

The importance of certain of the principles enunciated in this article has been abundantly borne out by my experience in the development of the work of the Section of Dermatology and Syphilology of the Mayo Clinic. The single-room type of hospital construction, a mechanical aid to individualization, is the type toward which we are striving. A special atmosphere can and should be created, akin in many of its qualities to the atmosphere of the best types of tuberculosis sanatoriums. Line-ups, publicity, crudity, rough-and-ready methods, noise and lack of refinement, coldness and lack of good will, are all dangerous to the integrity and success of any special service for this disease which deals with the so-called great middle class. Nor is there any reason why the poor should be obliged to submit to them merely because of their poverty. High-grade nursing, exceptional tact and discretion, the qualities of mind and heart in the staff which keep the patient always affectionately reminded of the department, are business assets in the care of syphilis no less than in the sale of goods and the building of commercial success.

The methods and principles described have, it is believed, no merely local applicability. They may be adapted to many types of hospitals and a variety of conditions. Organization can not, however, be carried out on theory alone. Nothing can be expected in the way of results where managerial niggardliness denies a newly organized service the sinews of war in the form of such equipment in offices and hospital beds as its performance can justify. Equally little can be expected where professional distrust and medical penny politics block the access to the legitimate field of the syphilologist. If a liberal policy and generous cooperation from co-workers prevail, an enthusiast with a little judgment, using material that now lies ready at hand, can quickly show, even with the most unassuming beginnings, that in the field of hospital care for the syphilitic there are possibilities for reward and humanitarian service that have lain too long untouched.

## FREE DENTAL CLINICS FOR RURAL SCHOOL CHILDREN

### Traveling Dental Service Instituted by North Carolina State Board of Health

Five years' experience in the inspection of about two hundred thousand North Carolina school children has clearly proved the urgent need for dental service in the schools, writes Dr. George M. Cooper, director of medical inspection of schools, North Carolina State Board of Health, in the *Southern Medical Journal.*

In the summer of 1918, the North Carolina State Board of Health sent out a traveling dental service. Emphasis was laid on cleaning the teeth, teaching the child and the parents the care of the teeth, and accustoming both to resort to private dentists thereafter.

The results obtained up to the close of the first four weeks of work were:

1. Two hundred and twelve dispensaries were held in nine counties.
2. Six thousand and seventy-one children received free treatment.
3. More than 100 lectures on oral hygiene were made to country people at night.
4. Equipment, including the best that money can buy, is already in place for a permanent dental infirmary for all the school children in the county, for two counties, and funds in hand for a third; and,
5. The total cost to obtain the foregoing results is $3,-199, or about 51 cents per capita.

The conclusions drawn can be summarized as follows:

1. Free dental service is a necessity which can and must be provided for all school children—certainly all those under twelve years of age.
2. Such service will increase the work of all good, private dentists, capable of doing more than they are doing, by at least 100 per cent.
3. The way to do the work is by salaried young dentists of the highest type and training, employed, paid, and directed by the state board of health.
4. The time for the work is during the school year.
5. The place to do the work is at the schoolhouse.
6. Everything necessary should be done for all the child's teeth except gold fillings, treatment of diseased pulp, etc.
7. The cost need not exceed one dollar for each child.

# NEW INSTRUMENTS AND EQUIPMENT

VINCENZ MUELLER, Technical Editor,
GEO. W. WALLERICH, Associate Editor,

**Please address items of news and inquiries regarding New Instruments and Appliances to the editor of this department, 327 Southeast Avenue, Oak Park, Illinois.**

## Invalid Carrier

A simple and inexpensive device has recently been invented for the purpose of converting an ordinary rocking chair into an invalid chair.

The frame is constructed of hardwood and supplied

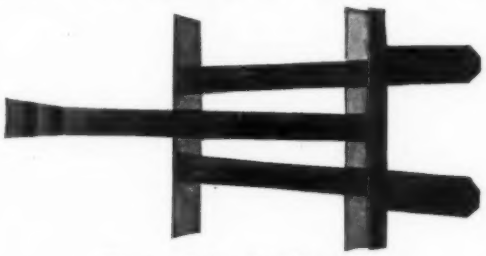

Fig. 1. Parker invalid carrier.

with easy-rolling ball-bearing casters. The cross bars are beveled toward the center, so as to permit the curved part of the rocker frame to fit the carrier, and there is sufficient space between the foot rests to permit the patient to get easily in and out of the chair. In order to push the chair over a threshold or other obstruction, all that is necessary is to place the foot on the treadle at the rear end of the carrier, press down, and the front of the chair will tilt up without causing discomfort to the patient.

The device is offered at the surgical supply stores under the name of the "Parker invalid carrier."

Fig. 2. Rocking chair in position on Parker invalid carrier.

## New Hospital Call Switch

Very elaborate hospital call systems have been devised and installed, and in many instances they are giving satisfactory service. One trouble which often arises from their use, however, is caused by the fact that some of them employ a form of standard wiring device which the patient uses to signal the nurse. The trouble experienced is due to the fact that the so-called standard wiring devices are not intended for such service. When used for this purpose, they sometimes break or fall apart, and if this happens the patient may unfortunately come in contact with the flexible conductor carrying the voltage of the lighting circuit. Further, the flexible conductors carrying the push button or pendent switch may be worn or damp, thus making the signal inoperative.

A new device, under the name of a "hospital call switch," has just been developed, which is made for installation in a standard switch outlet box. The wiring does not extend beyond the box. No flexible conductors or push button switches are required for its use, and consequently the annoyance of having these parts broken and soiled is eliminated. Also, as the live parts terminate in

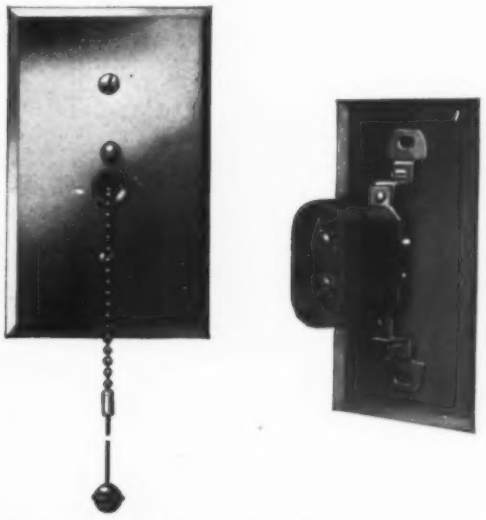

Fig. 1 (to left). "Hospital call switch" installed.
Fig. 2 (to right). Rear view of "hospital call switch," showing small proportions and connections for wiring

the wall, there is no possibility of the patient's coming in contact with them, and, therefore, some of the objectionable features spoken of above are eliminated. In addition, it offers a means of making a neat and cheaper installation.

From the accompanying illustrations it will be seen that the new device consists of a C-H standard push and pull mechanism slightly modified. The switch is operated by a pull chain. A linen cord placed within easy reach of the patient is used to pull the switch "on." The cord is attached to a short piece of chain which extends through a horn in the plate, and to a projection on a push button. A push button, located above the horn and extending

through the plate, is used by the nurse to push the switch off. The plate is the same size as those used for wall switches and receptacles, and the switches and the plates are made singly or in gangs. The new device may be used on any standard lighting circuit of 125 volts or less.

### Inflatable Bag Hemostat

For the purpose of controlling hemorrhage after transvesical prostatectomy, Dr. Paul M. Pilcher of Brooklyn designed the bag shown here.

Figure 1 shows the bag deflated, the way it appears before insertion, and in inflated condition, also showing the wire protecting end of catheter attachment to bag. This wire insertion prevents the collapse of the catheter or drainage tube and insures continued free drainage.

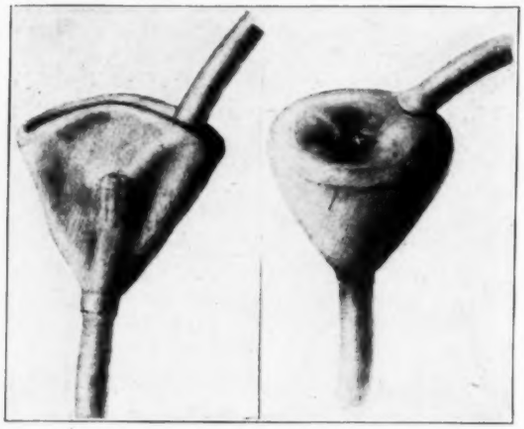

Fig. 1. Bag hemostat deflated (to left). Bag hemostat inflated (to right).

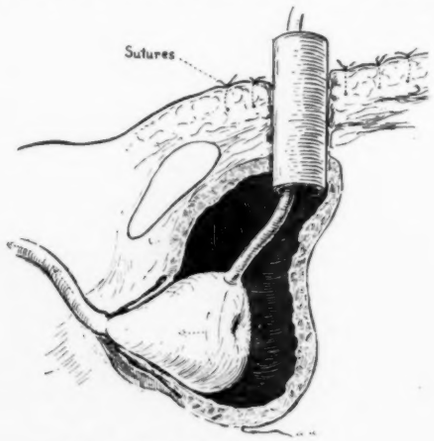


Fig. 2. Bag hemostat in use.

The Pilcher hemostatic bag is a modification of the bag devised several years ago by Dr. Hagner of Washington. Dr. Hagner's bag, however, was designed only for the purpose of exerting pressure, and not for drainage. It is a small inflatable rubber bag fashioned over a large-size catheter. The open tube catheter is entered through the suprapubic wound over a silver catheter and drawn down through the urethra. When the bag is in the bladder with the tube in the urethra, it is inflated through the inflating tube and the inflated bag is used for pressure against the bleeding surface from which the prostate has been removed. When extra pressure is desired, the catheter attachment is pulled down, which brings the bag more tightly in contact with the bleeding surface. This pressure may be maintained by attaching the catheter tube to the leg. The catheter tube also acts as an avenue for the escape of the urine from the bladder, which is shown in Figure 2.

When enucleation of the prostate is completed, the inflating tube is passed up through or beside a large drainage tube. After two or three hours the bag is allowed to deflate, but is kept in place. Should bleeding recommence the bag is at once reinflated and pressure is reestablished. As a rule the bag may be removed after about twenty-four hours.

The device can be secured at first-class surgical supply and instrument houses.

## MILWAUKEE INFANTS' HOSPITAL RESUMES ITS WORK

### Institution Whose Staff Was Severely Crippled by War Expects Soon to Regain Normal—Excellent Facilities for Care of Infants Afforded in New Building

The new building of the Milwaukee Infants' Hospital, which is one of the few institutions in the country devoted exclusively to the care of children under two years of age, was just completed at the time the United States entered the war. As seven of the eight physicians on the staff were called into military service, the work of the hospital has been somewhat handicapped, but it is hoped that, with their return, the usual activities will be resumed. The laboratory is well equipped and is in charge of Dr. R. M. Hall, a trained specialist, who has had some valuable army experience. Dr. A. W. Gray, the chief of the staff, is still at Camp Grant.

A training school which will offer an eighteen months' course for infants' nurses is soon to be established and, with the facilities and opportunities afforded by the hospital, should prove a very valuable addition.

The new building will undoubtedly be of interest to others who are doing similar work along infant welfare lines. Unfortunately, the plans can not be published at the present time, as the architect is still in government service, but it is hoped that they will be available for publication shortly after his release.

The new building of the Milwaukee Infants' Hospital, devoted entirely to the care of babies under two years of age.

### Oases in the Mud

One American soldier-humorist has remarked that Brest, the French city from which the boys start for home, is about four miles square and four miles deep. Since the rains have made that place a quagmire of mud, the efforts of the Red Cross have been devoted largely to supplying a few dry spots, and the little rest huts with something to read and a place to smoke in dry comfort, are greatly appreciated.